



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
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ATLANTA, GEORGIA 30303-8931

September 6, 2005

MEMORANDUM TO: Mel Shannon, Senior Resident Inspector (Oconee)
Projects Branch 1
Division of Reactor Projects

FROM: William D. Travers, Regional Administrator/**RA**

SUBJECT: DIFFERING PROFESSIONAL OPINION DECISION REGARDING
OCONEE PIPE WHIP RESTRAINT (DPO-2005-003)

The purpose of this memorandum is to provide the management decision for the Differing Professional Opinion (DPO) regarding the Oconee pipe whip restraint that you submitted on February 16, 2005. In accordance with Management Directive 10.159, The Differing Professional Opinions Program, I appointed an Ad Hoc Review Panel on March 11, 2005, to conduct an independent review of your concerns. The panel's review focused on three primary concerns:

1. The licensee's fatigue analysis of the improperly adjusted pipe whip restraint contained errors and the licensee's evaluation failed to consider the increased probability of pipe failure resulting from the stresses applied by the improperly adjusted pipe whip restraint.
2. The staff's review of the licensee's calculation was inadequate.
3. The staff's application of the Reactor Oversight Process in regards to the improperly adjusted pipe whip restraint was inappropriate.

The panel provided the results of their review on July 19, 2005, and reached the following overall conclusions:

- The increased stresses imposed by the improperly adjusted pipe restraints did not result in a strain which approached the ultimate material strain of the pipe. Hence, pipe failure as a result of a one-time load application was unlikely.
- The issue was appropriately dispositioned in Oconee Inspection Report 2004-005 given the assumption in the inspection report that pipe failure would not occur.
- The Region's review of the issue was appropriate.

In reaching my decision, I reviewed the panel's report, discussed the report with the panel chair, and reviewed the additional comments you provided on the panel's report on July 25, July 27, July 28, and August 19, 2005. Based on this review, I agree with the conclusions of the panel.

The panel provided three recommendations. My decisions regarding the recommendations, and the rationale for the decisions, are provided below.

Recommendation 1: *NRR, explore revising the ROP to allow for the processing of performance deficiencies involving issues/initiating events that are not amenable to treatment using existing statistical techniques.*

Decision: Agree with the recommendation. Region II will prepare and forward a memorandum to the Director of the Office of Nuclear Reactor Regulation (NRR) recommending that a review be conducted to develop possible alternate approaches to determining the significance of findings for those issues that are not amenable to treatment using the current Significance Determination Process tools. The alternate approaches should consider the complexity of the issue, deterministic and statistical uncertainties, and the resources needed to determine the significance of the issue before starting any approach.

Rationale: The panel found that the current risk analysis tools that are used in determining the significance of inspection findings may not be adequate, or appropriate, for all types of findings. In this specific case, the panel concluded that adequate techniques for correlating the increase in pipe stress to an increased probability of pipe failure were not available. A significant amount of valuable staff resources (inspectors and risk analysts) were expended in evaluating the significance of this finding. The purpose for reaching a decision regarding the significance of a finding is to determine the appropriate regulatory response to the issue, including supplemental inspection and pertinent regulatory actions ranging from management meetings up to and including orders for plant shutdown. Region II has had similar experiences with other findings where the resources could have been more effectively used, and in a more timely manner, if there was an alternate approach to determining the significance of some findings. In some cases, the resources expended in determining the significance of a finding far exceeded the resources eventually expended in responding to the issue. The review of this DPO, along with Region II's experience during the first four years of the Reactor Oversight Process, have highlighted the need for a more rigorous decision-making process prior to the expenditure of resources for a complex risk analysis where large uncertainties are expected, and alternate approaches for reaching decisions on the appropriate regulatory response.

Recommendation 2: *Include the improperly adjusted pipe restraints in the next PI&R sample inspection performed by Region II. Specifically examine the following attributes during this inspection:*

- *licensee corrective actions to ensure that the clearances/gaps in the restraints are maintained*
- *the need for the licensee to conduct routine pipe wall thickness measurements in the vicinity of the pipe restraints. If no requirements exist in this area, engage the licensee on the desirability of conducting these measurements.*
- *whether calculation errors in Revision 1 of the calculation were appropriately processed in the licensee's corrective action program.*
- *extent of condition reviews performed by the licensee regarding other similar restraints.*

Decision: Agree, in part, with the recommendation. Region II will include the improperly adjusted pipe restraints as a specific sample in a Problem Identification and Resolution Inspection. The inspection will examine the licensee's corrective actions to ensure that the clearances/gaps in the restraints are maintained, whether calculation errors were appropriately processed in the corrective action program, and that extent of condition reviews were performed by the licensee regarding other similar restraints.

Regarding the recommendation to examine the need for the licensee to conduct routine pipe wall thickness measurements in the vicinity of the pipe restraints, the staff should determine whether requirements exist in this area as part of preparing for the inspection. If no regulatory requirements exist in this area, and the licensee has elected not to perform the measurements then the need for a backfit will need to be evaluated. The licensee should not be "engaged" on the desirability of conducting these measurements until the appropriate regulatory process is determined.

Rationale: The issues involved in this finding warrant followup using the flexibility provided in Inspection Procedure 71152, Identification and Resolution of Problems. The recommendation regarding engaging the licensee on the desirability of conducting routine pipe wall thickness measurements appears to approach imposing a backfit on the licensee. The inspection staff should determine if there are any requirements to conduct the measurements before conducting the inspection. If there are no requirements for the measurements, then the staff will need to conduct a backfit analysis to justify imposing this requirement on the licensee.

Recommendation 3: Region II, develop a feedback form for MC 0612 to specifically require that inspection report writeups document the details of phone calls between the inspectors and NRR used to resolve inspection issues of a technical nature. Additionally, when such calls are referenced in the inspection report, change MC 0612 to require report concurrence by key NRR participants and the responsible NRR BC.

Decision: Agree with the recommendation. Region II will develop a feedback form that will recommend that MC 0612 be revised to require that inspection reports document conversations (telephone calls, emails, meetings, etc.) between the inspection staff and technical staff members, where those conversations provide a basis for a regulatory decision documented in the inspection report. In addition, the responsible Branch Chief for the technical staff should concur on the inspection report when these discussions are documented.

Rationale: The panel concluded that telephone calls were conducted with NRR personnel as part of the review of the unresolved item. However, details associated with these calls were not documented in the inspection report or on the docket. This could result in situations where the basis for a regulatory decision is unclear and not retrievable. By revising MC 0612 to require that inspection reports document the details of discussions between the inspectors and technical experts, and that the appropriate Branch Chief concur in the report, when those discussions provide a basis for the regulatory decision, the traceability for the NRC's decision is insured.

M. Shannon

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I appreciate and commend your willingness to use the Differing Professional Opinions Program. Your willingness to bring your concerns to my attention contributed to the development of recommendations for enhancements in the evaluation and documentation of issues. In accordance with Management Directive 10.159, The Differing Professional Opinions Program, a summary of the issue and its disposition will be included in the Weekly Information Report to advise interested employees of the outcome.

cc: R. Pedersen, DPOPM
C. Evans, RII

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☐ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☐ NON-SENSITIVE
ADAMS: ☐ Yes ☒ No ACCESSION NUMBER: **ML060540542**_____

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