



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 6, 1993

MEMORANDUM FOR: Karen M. VanDuser, Chief
Document Control Branch
Division of Information Support Services
Office of Information Resources Management

FROM: Gail H. Marcus, Chief
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Division of Operating Reactor Support
Office of Nuclear Reactor Regulation

SUBJECT: REVISED RESOLUTION OF PUBLIC COMMENTS ASSOCIATED WITH THE
PROPOSED SUPPLEMENT 5 TO GENERIC LETTER (GL) 89-10,
"INACCURACY OF MOTOR-OPERATED VALVE DIAGNOSTIC EQUIPMENT"

The Mechanical Engineering Branch has prepared the proposed Supplement 5 to GL 89-10. The Committee to Review Generic Requirements (CRGR) was requested to review and endorse the proposed supplement by Frank J. Miraglia's memorandum to Edward L. Jordan dated October 29, 1992, and February 17, 1993. On March 9, 1993, the CRGR endorsed, subject to minor modification of the supplement and the resolution of public comments, issuance of the proposed supplement at its 238th meeting.

By copy of this memorandum, we are providing the enclosed revised resolution of public comments to the NRC Central Files.

Gail H. Marcus

Gail H. Marcus, Chief
Generic Communications Branch
Division of Operating Reactor Support
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Enclosure: As stated

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RESPONSE TO PUBLIC COMMENTS ON PROPOSED SUPPLEMENT 5 TO GENERIC LETTER 89-10

Nuclear Management and Resources Council

Nuclear Management and Resources Council (NUMARC) letter dated April 6, 1992.

Comments

NUMARC requested that the NRC staff reconsider the need to issue Supplement 5 to Generic Letter (GL) 89-10. NUMARC stated that licensees have been informed of the potential reduction of calculated margin caused by the valve stem directional effects and load sensitive behavior. NUMARC stated that its guidance on the issue was forwarded to the industry by its Board of Directors in order to ensure high utility visibility and priority. NUMARC believes that the reporting requirements of Supplement 5 would impose separate and special actions upon the industry already burdened with resolving these and other motor-operated valve (MOV) operability issues. NUMARC stated that lack of attention and action by any licensee to the issue of Supplement 5 could be identified through the inspection process for GL 89-10. NUMARC suggested that the information requested by the generic letter supplement be obtained through those inspections.

NRC Staff Response

The NRC staff agrees with NUMARC that licensees have been adequately alerted to the increased inaccuracy of MOV diagnostic equipment caused by valve stem directional effects. During recent MOV inspections, the NRC staff has gathered information on the awareness of licensees regarding the MOV diagnostic equipment accuracy issue and the plans of licensees to address the issue. The NRC staff found some licensees to be aggressively pursuing resolution of the issue while others were just beginning. Therefore, the NRC staff does not agree with NUMARC that the actions taken by NUMARC to date will ensure that each licensee will address this issue in a timely manner. The NRC staff will be evaluating the accuracy of MOV diagnostic equipment during inspections of GL 89-10 programs at nuclear plants. However, the NRC staff will not be able to conduct an inspection at each plant in the near future.

The staff has broadened the scope of proposed Supplement 5 to GL 89-10 to all MOV diagnostic equipment in response to recent information on MOV diagnostic equipment that relies on valve yoke strain, other public comments, and further staff review. The staff will review the response of licensees using various types of MOV diagnostic equipment to direct GL 89-10 inspection efforts.

Also in response to public comments and staff review, the staff has limited the reporting requirements to information necessary to indicate that each licensee has responded to Supplement 5 to GL 89-10. The NRC staff does also lengthened the reporting time period to reduce the burden.

The staff concludes that issuance of proposed Supplement 5 to GL 89-10 is necessary to verify that licensees using MOV diagnostic equipment are addressing new information on the accuracy of MOV diagnostic equipment.

Ohio Citizens for Responsible Energy

Ohio Citizens for Responsible Energy, Inc. (OCRE) letter dated August 4, 1992.

Comments

OCRE stated that it supported the issuance of Supplement 5 to GL 89-10. OCRE also recommended that the supplement address all of the deficiencies identified with MOV diagnostic equipment, such as load sensitive behavior, and require that licensees respond to such concerns as well.

NRC Staff Response

The NRC staff has broadened the scope of the generic letter supplement to include all licensees using MOV diagnostic equipment. The supplement requested licensees to re-examine their MOV programs and to identify measures taken to account for uncertainties in properly setting valve operating thrust. The staff has requested that licensees address all aspects of MOV diagnostic equipment inaccuracy and not merely the examples discussed in the generic letter supplement. The NRC staff will evaluate each licensee's consideration of the accuracy of its MOV diagnostic equipment during inspections of programs established in response to GL 89-10.

With respect to load sensitive behavior, generic industry guidance does not currently exist on the amount of margin needed to accommodate this phenomenon. The Electric Power Research Institute (EPRI) is studying load sensitive behavior as part of its MOV Performance Prediction Program. The NRC staff will evaluate the results of the EPRI effort to determine if generic guidance can be provided from those results. At present, the NRC staff expects licensees to evaluate the results of their plant-specific MOV tests to determine an appropriate amount of margin to account for load sensitive behavior.

Carolina Power & Light Company

Carolina Power & Light Company (CP&L) letter dated August 6, 1992.

Comments

CP&L stated that Supplement 5 to GL 89-10 appears unnecessary and should not be issued since the industry is aware of (1) the results of the MOV Users Group (MUG) test program and (2) the guidance to address proper diagnostic equipment use. CP&L noted that Supplement 5 applies to any diagnostic equipment whose accuracy might be affected by valve stem

directional effects. CP&L stated that the reporting requirements in Supplement 5 appear redundant and will place an unnecessary burden on licensee resources, especially invoking 10 CFR 50.54(f) to a supplement. CP&L stated that NRC inspections can easily determine that a plant is in compliance with regulatory requirements and technical specifications. Also CP&L suggested that the reference to load sensitive behavior be removed because CP&L believes that it does not add to the technical or safety significance of the information discussed in Supplement 5 to GL 89-10.

NRC Staff Response

The NRC staff agrees that the industry is aware of the MUG test results. However, as indicated in the response to the NUMARC letter, the staff has found that not all licensees are addressing the information on increased MOV diagnostic equipment inaccuracy. Further, the staff has received additional information on the increased inaccuracy of MOV diagnostic equipment that relies on valve yoke strain. The staff has broadened the scope of proposed Supplement 5 to GL 89-10 to all MOV diagnostic equipment.

The staff has reduced the reporting requirements to information necessary to indicate that each licensee has responded to Supplement 5 to GL 89-10. The staff has also lengthened the reporting time period to reduce the burden.

The staff agrees that NRC inspections could be used to ensure that licensees are addressing the increased inaccuracy of MOV diagnostic equipment without the issuance of Supplement 5. However, the staff will need a considerable period of time to conduct inspections at each facility. Supplement 5 will provide the staff with information that licensees using MOV diagnostic equipment have responded to new information on diagnostic equipment inaccuracy consistent with the safety significance of the issue.

In response to the CP&L comment, the staff has deleted the reference to load sensitive behavior as not directly applicable to valve stem directional effects on MOV diagnostic equipment accuracy.

Entergy Operations, Inc. - Grand Gulf

Entergy Operations, Inc., the licensee of the Grand Gulf Nuclear Station, letter dated August 7, 1992, provides several general and specific comments.

Specific Comments

1. Entergy stated that Supplement 5 implies that the NRC considers any infringement on a conservative margin as justification to declare a valve inoperable. Entergy asserted that such a position would constitute a new interpretation which requires justification by an appropriate backfit analysis. Entergy noted that the still undetermined

long-term accuracy and repeatability of any diagnostic equipment leaves thrust settings as no more than a ballpark estimate that the original torque switch settings are reasonable, and that gross degradation is not present. In assessing the significance of margin reduction, Entergy stated that reliance should be placed on the guidance of GL 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and Operability." Entergy suggested that the wording of Supplement 5 be revised to state that, if a licensee finds an MOV without adequate margin, the licensee should take action as designated by its applicable GL 89-10 and/or nonconformance programs, as supplemented by the guidance of GL 91-18.

NRC Staff Response

The NRC staff agrees that infringement on conservative margin would not require an MOV to be declared inoperable. The staff has determined from its inspections that licensees have found little margin available in the sizing and setting of many MOVs. Therefore, some licensees rely on precise thrust values from their diagnostic equipment in assessing MOV operability. The staff agrees that GL 91-18 provides appropriate guidance for evaluating MOV operability. The paragraph in Supplement 5 referred to by Entergy is being revised to indicate that licensees should evaluate the effect of the increased MOV diagnostic equipment inaccuracy on MOV operability and that GL 91-18 provides guidance in evaluating operability.

2. Entergy stated that specific immediate action over and above the overall action necessary for responding to GL 89-10 is not justified. Entergy stated that this issue could be covered by NRC inspections. Entergy considered a special report on just the use of ITI-MOVATS equipment to be narrow-focused and premature. Entergy believes an information-only generic letter or an Information Notice would be more appropriate. Entergy stated that such a notice would allow time for other vendor problems and error mechanisms to be identified. Entergy noted that the original schedule developed for GL 89-10 was based on the NRC staff's belief that major safety concerns did not exist with MOVs. Entergy asserted that the 30-day response time is overly restrictive and burdensome. Entergy believes a rapid response not to be appropriate or beneficial considering the GL 89-10 schedule, the period of time that test equipment inaccuracies have been known, and the remaining uncertainty in testing methodologies.

NRC Staff Response

The NRC staff has determined that the examples of increased error in the accuracy of MOV diagnostic equipment should be addressed by licensees. The staff will evaluate licensee action in response to this issue during inspections, but this will take a considerable amount of time. The staff has issued two information notices on the MUG testing program and ITI-MOVATS studies. The staff determined that another information notice would not ensure that applicable licensees address, on a prompt basis, the potential effects on MOV operability caused by increased MOV

diagnostic equipment inaccuracy. Entergy correctly notes that the original GL 89-10 schedule was based on the belief that major concerns did not exist with MOVs. However, as stated in Supplement 1 to GL 89-10, licensees are expected to resolve MOV problems when identified. The staff has modified the reporting requirements and lengthened the reporting time period to reduce the burden on licensees.

3. Entergy stated that the reporting requirements (c) and (d) regarding MOVs not adequately sized and set, and the actions planned or taken, are inappropriate and inconsistent with currently accepted practices. Entergy stated that identification and reporting of inadequately sized and set MOVs are currently controlled by existing MOV programs. Entergy asserted that items (c) and (d) could result in new and continuous reporting. Entergy recommended deleting reporting requirements (c) and (d).

NRC Staff Response

The NRC staff agrees and has deleted reporting requirements (c) and (d).

4. Entergy asserted as misleading the staff's discussion (in the Safety Assessment) of MOVs whose torque switch settings have been lowered based on diagnostic equipment readings. Entergy noted that torque switch settings may be lowered based on appropriate considerations, such as revised design-basis differential pressure. Entergy stated that the inference that the industry as a whole has reduced their accident mitigation capabilities by premature diagnostic testing is inappropriate and unfounded. Entergy suggested that the last two sentences of the Safety Assessment be revised to recommend that these MOVs be evaluated to ensure their confidence to perform has not been reduced and, where confidence has been reduced, that an appropriate non-conformance evaluation performed.

NRC Staff Response

The NRC staff has removed the safety assessment discussion as not necessary to the issuance of proposed Supplement 5 to GL 89-10.

5. Entergy stated that it is confusing that the NRC staff has accepted ITI-MOVATS' conclusion of non-reportability of the MOV diagnostic equipment inaccuracy issue under 10 CFR Part 21, while appearing dogmatic on imposing a restrictive response time criteria.

NRC Staff Response

The NRC staff has removed the discussion of 10 CFR Part 21 as not necessary to the issuance of proposed Supplement 5 to GL 89-10.

General Comments

1. Entergy stated that it may be premature to endorse the equation from ITI-MOVATS because in computing the "rate of loading" for the close

direction a licensee must use calibration from the open direction.
NRC Staff Response

The industry performed a peer review through NUMARC to evaluate the technical acceptability of the ITI-MOVATS equation in its Engineering Report 5.2. Furthermore, in the meeting with ITI-MOVATS on March 2, 1992, ITI-MOVATS representatives presented information to support the conclusion that their equation bounded the data collected from their field validation program. Based upon this work and the review performed by the NRC staff, including the NRC staff comments on the NUMARC guidelines, the NRC staff made an independent determination of the acceptability of the NUMARC guidelines as an acceptable approach for addressing the uncertainty resulting from the use of the ITI-MOVATS TMD. The staff will continue to assess the acceptability of the NUMARC guidelines based on licensee experience with their use.

2. Entergy stated that the thrust values given to MOV vendors to size an actuator are the same values used to set up an MOV with equipment error added during testing. Entergy therefore asked if the NRC staff prefers vendor-recommended torque switch settings.

NRC Staff Response

The NRC staff is not relying on vendor-recommended torque switch settings. Licensees need to validate vendor-supplied information.

3. Entergy stated that the use of a stem friction coefficient of 0.15 and design spring pack curves by ITI-MOVATS causes its guidance to be questionable.

NRC Staff Response

The response to this comment is the same as provided for general comment number 1. above.