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Docket No. 50-289

Mr. Henry D. Huk111
 Vice President
 GPU Nuclear Corporation
 P. O. Box 480
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Dear Mr. Huk111:

In their Partial Initial Decision dated December 14, 1981, the Board in paragraphs 1163 and 1168, specified that as a condition of restart, the licensee must comply with six equipment qualification conditions specified in testimony of NRC staff witness Dr. Rosztoczy.

By letter dated March 24, 1982, you provided a response to the six conditions cited above. We have reviewed your response and find it acceptable.

Our evaluation is enclosed.

Sincerely,

ORIGINAL SIGNED BY
 JOHN F. STOLZ

John F. Stolz, Chief
 Operating Reactors Branch #4
 Division of Licensing

Enclosure:
 As Stated

cc w/enclosure:
 See next page

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Evaluation of Licensee's Responses
to Conditions of Restart
Proposed in Testimony of Dr. Rosztoczy

Equipment Qualification Branch

Three Mile Island Unit 1
Docket No. 50-289

Condition No. 1

Replace materials with a qualified life of 1.5 years prior to restart.

Licensee's Response

The material identified as having a qualified life of 1.5 years is neoprene (Degradation mode is thermal aging). This material will be replaced, before restart, with ethylene propylene which has a qualified service life of 10 years.

Evaluation

We find the licensee's response acceptable.

Condition No. 2

Prior to criticality, put into place a maintenance and replacement program that will assure all materials with a qualified life of less than 40 years will be replaced when needed.

Licensee's Response

The existing program which assures the replacement of materials with a qualified service life of less than 40 years is either a part of the Preventive Maintenance Program (AP 1027) at TMI-1 or is tracked using some other formal tracking system. The schedular portion of this program is computerized.

Evaluation

We find the licensee's response acceptable.

Condition No. 3

Consider aging of the materials during the periods prior to installation, during plant operation, and during the periods the plant is not operating in establishing the material replacement schedules.

Licensee's Response

For TMI-1 it was assumed that aging began at initial criticality since the equipment involved only ages significantly due to high radiation and temperature associated with plant operations. If a material has a known aging degradation at ambient conditions, this was included in the aging evaluation. For replacement parts, shelf life identification is controlled by GPUN Warehouse Procedure 7231-WHP-6470.0.

Evaluation

We find the licensee's response acceptable.

Condition No. 4

Complete the aging evaluations for the equipment still to be evaluated prior to exceeding 5% power operation and factor the results into the replacement program, if required.

Licensee's Response

Aging evaluations on all Class IE equipment in a harsh environment have been completed as of now. The results have been factored into the material replacement program described in response to Condition No. 2 above.

Evaluation

We find the licensee's response acceptable.

Condition No. 5

For the Foxboro pressure transmitters, reevaluate the referenced test report to justify the acceptance of the test results for demonstrating Foxboro pressure transmitters are qualified for the specified radiation levels. The failures occurred during a test to radiation levels several thousand times greater than the radiation levels expected as a result of a loss of feedwater/SBLOCA event. Also, provide justification for applying the test results to the transmitter model installed in TMI-1 and provide the results of the above evaluation and justification to the NRC for review prior to exceeding 5% power operation.

Licensee's Response

The licensee has responded by referencing a June 12, 1981 letter from Metropolitan Edison to the NRC. In the enclosure to that letter they have provided a response to the following question:

Do the failures on Foxboro transmitters, described in test report T3-1068, affect the qualification of the TMI-1 transmitters? Are these the same type of units?

The licensee answered:

All units in this report continued to function up to 7.6×10^7 R. This is orders of magnitude above the SB LOCA radiation for TMI-1. The TMI-1 transmitters are of the same type, as those tested.

Evaluation

By NRC letter dated April 23, 1981, the licensee was informed of potential deficiencies affecting certain Foxboro transmitters. These potential deficiencies, describe in a March 12, 1981 letter from the Foxboro Company, were identified in transmitters that operate at a signal level of 10-50mA. Foxboro stated in their letters that similar model numbered units operating at 4-20mA are not affected. The licensee states in a May 18, 1981 letter to the NRC that the Foxboro transmitters used at TMI-1 are the 4-20mA type, and thus not subject to the potential deficiencies identified.

Foxboro test report no. T3-1068 indicates that six of the eight transmitters tested were the 4-20mA type, and that only one of these units failed. The unit failed after receiving a total dose of 8.6×10^7 rads. This radiation level is much greater than what would be expected following a SBLOCA at TMI-1, assuming 1% failed fuel. Therefore, the Foxboro test results demonstrate that the transmitters tested are qualified for the radiation levels for this event at TMI-1.

The 4-20mA units tested utilized two different amplifier assemblies, and one transmitter was tested with the amplifier mounted outside of the radiation field. However, the licensee has stated that the TMI-1 transmitters are of the same type as those tested. We will confirm that the test results are applicable to the transmitters installed in TMI-1 as part of current review of all operating plants.

Based on the above, we find that the licensee has adequately responded to this restart condition.

Condition No. 6

Evaluate the information made available to them (the licensee) prior to criticality, concerning the recent testing on Limitorque motor operators, and determine whether the results of that testing are applicable to the operators in TMI-1 for the event being analyzed. Prior to exceeding 5% power operation, provide the results of this evaluation to the NRC for review.

Licensee's Response

The licensee has responded by referencing an October 6, 1981 letter from Metropolitan Edison to the NRC. In that letter they provide comments on information concerning the testing on Limatorque motor operators supplied to them by a July 27, 1981 NRC letter. Based on their review of that information, they conclude that an earlier Limatorque test continues to be a valid reference, and cite three Limatorque test reports which, they state, satisfactorily demonstrate the capability of the TMI-1 components.

Evaluation

We will confirm that the test reports referenced by the licensee are applicable to the Limatorque motor operators installed in TMI-1 as part of our current review of all operating plants. However, since this restart condition was proposed, and subsequent to supplying information to the licensee, we have been informed by Westinghouse of additional test failures. We have also been informed by Limatorque of retesting they performed in order to reaffirm previous 1974 type test results. Although it appears that the test reports cited by the licensee may be valid references to demonstrate qualification of Limatorque motor operators for the postulated SBLOCA environment, we are still investigating the implications of the Westinghouse test failures, and how they may affect the validity of results from previous testing. We will then determine what action, if any, is required on a generic basis for all plants.

Based on the above, we find that the licensee has adequately responded to this restart condition.

Conclusion

Based on the above evaluations, we conclude that the licensee's responses to the six restart conditions quoted above are acceptable.