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NIAGARA MOHAWK POWER CORPORATION

ATTACHMENT A

LICENSE NO. NPF-69

DOCKET NO. 50-410

Proposed Changes to Technical Specifications

Replace existing pages 3/4 7-16, 3/4 7-18, 3/4 7-19, 3/4 7-20 and 3/4 7-21 with the attached revised pages. These pages have been retyped in their entirety with marginal markings to indicate the changes.

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3/4.7.5 SNUBBERS

LIMITING CONDITIONS FOR OPERATION

3.7.5 All snubbers shall be OPERABLE. The only snubbers excluded from the requirements are those installed on non-safety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

<u>APPLICABILITY</u>: OPERATIONAL CONDITIONS 1, 2, and 3 and OPERATIONAL CONDITIONS 4 and 5 for snubbers located on systems required OPERABLE in those OPERATIONAL CONDITIONS.

<u>ACTION</u>: With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.5 on the supported component or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REOUIREMENTS

4.7.5 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

a. <u>Snubber Types</u>

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. <u>Visual Inspections</u>

Snubbers are categorized as inaccessible or accessible during reactor operation. Each category may be inspected independently according to the schedule below. The first inservice visual inspection of snubbers shall be performed after 2 months but within 12 months of commencing POWER OPERATION and shall include all snubbers. If all snubbers are found OPERABLE during the first inservice visual inspection, the second inservice visual inspection shall be performed at the first refueling outage (18 months $\pm 25\%$). Otherwise, subsequent visual inspections shall be performed in accordance with the following schedule;

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SURVEILLANCE_REQUIREMENTS

- 4.7.5 (Continued)
- e. Functional Tests

During the first refueling shutdown and at least once per 18 months thereafter during shutdown, a representative sample of snubbers shall be tested using one of the following sample plans for each type of snubber. The sample plan shall be selected before the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected before the test period or the sample plan used in the previous test period shall be implemented:

- 1. An initial representative sample of at least 10% of the total of each, type of snubber shall be functionally tested either in place or in a bench test. For any snubber(s) of a type that do not meet the functional test acceptance criteria of Specification 4.7.5.f, an additional sample of at least 1/2 the size of the initial sample lot shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where C is the total number of snubbers found to be unacceptable or all snubbers in the failure mode group have been tested; or
- 2. An initial representative sample of 37 snubbers of each type shall be functionally tested in accordance with Figure 4.7.5-1. "C" is the total number of snubbers found not meeting the acceptance requirements of Specification 4.7.5.f. The cumulative number of snubbers of a type tested is denoted by "N". If at any time the point plotted falls in the "Accept" region, testing of snubbers may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers shall be tested until the point falls in the "Accept" region or all the snubbers of that type have been tested.

The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type. Snubbers placed in the same locations as snubbers that failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan. Testing equipment failure during functional testing may invalidate the day's testing and allow that day's testing to resume anew at a later time. provided all snubbers tested with the failed equipment during the day of equipment failure are retested.

If during the functional testing, additional testing is required due to failure of snubbers, the unacceptable snubbers may be categorized into failure mode group(s). A failure mode group shall include all

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4.7.5.e (Continued)

unacceptable snubbers that have a given failure mode and all other snubbers subject to the same failure mode. Once a failure mode group has been established, it can be separated for continued testing apart from the general population of snubbers. However, all unacceptable snubbers in the failure mode group shall be counted as one unacceptable snubber for additional testing in the general population. Testing in the failure mode group shall be based on the number of unacceptable snubbers and shall continue until no more failures are found or all snubbers in the failure mode group have been tested. Any additional unacceptable snubbers found in the failure mode group shall be counted for continued testing only for that test failure mode group. In the event that a snubber(s) becomes included in more than one test failure mode group, it shall be counted in each failure mode group and shall be subject to the corrective action of each test failure mode group.

f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

- 1. Activation (restraining action) is achieved within the specified range in both tension and compression;
- 2. For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

g. <u>Functional Test Failure Analysis</u>

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

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4.7.5.g (Continued)

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen-in-place, the cause will be evaluated and if caused by manufacturer or design deficiency, or unexpected transient event, all snubbers of the same type subject to the same defect shall be functionally tested. Snubbers of the same type subject to the same defect shall be categorized as one failure mode group for the purpose of additional testing per Specification 4.7.5.e.

h. Functional Testing of Repaired and Replaced Snubbers

Snubbers that fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers that have repairs that might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom-of-motion test must have been performed within 12 months before being installed in the unit.

i. Snubber Service Life Program

The service life of all snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. The maximum expected service life for various seals, springs, and other critical parts shall be determined and established on the basis of engineering information and shall be extended or shortened on the basis of monitored test results and failure history. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when the snubber is required to be OPERABLE. The parts replacements shall be documented and the documentation shall be retained in accordance with Specification 6.10.1.2.

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Figure 4.7.5-1 Sample Plan 2 for Snubber Functional Test NINE MILE POINT - UNIT 2 3/4 7-21

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ATTACHMENT B



LICENSE NO. NPF-69

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Reference: Examination and Performance Testing of Nuclear Power Plant Dynamic Restraints (Snubbers)-OM4, Revision 2, Draft 7 (Editorial 5/88)

INTRODUCTION

The currently endorsed American Society of Mechanical Engineers (ASME) standard on snubber testing, OM4, contains two sample plans for inservice operability testing (i.e. functional testing) of snubbers. The two sample plans, when compared to the three sample plans currently contained in Technical Specification Section 4.7.5.e, provide reduced testing and a corresponding reduction in man-rem exposure while still providing adequate assurance of snubber reliability. Section 4.7.5.e has therefore been modified in accordance with OM4.

DISCUSSION

The first of three Technical Specification sampling plans, the "10 percent plan", described in Specification 4.7.5.e(1) requires 10% of the snubbers to be tested periodically. It requires testing of an additional 10% of the snubbers for each snubber not meeting the acceptance criteria of Specification 4.7.5.f. The proposed change modifies this plan to require only a 5% additional testing for each snubber that fails functional testing as opposed to 10% additional testing presently required. Reducing the percentage of snubbers to be retested does not undermine the effectiveness of this surveillance. The initial test sample remains the same and is sufficient to provide an adequate sampling of the snubbers. This change will reduce the amount of additional testing required and thus reduce man-rem exposure and safety concerns associated with unnecessary functional testing. This change is consistent with the ASME OM-4 document.

The second sampling plan, the "37 plan", described in Specification 4.7.5.e(2) requires that a representative sample of snubbers be tested periodically in accordance with Figure 4.7.5-1. Figure 4.7.5-1 provides the acceptance criteria method for the functional test results and denotes a "reject" region and a "continue testing" region. If at any time the plotted test results fall within this "reject" region, then all snubbers are to be functionally tested. The proposed change revises surveillance requirement 4.7.5.e(2) and Figure 4.7.5-1 to delete the "reject" region and substitute an expanded "continue testing" region. With the deletion of the "reject" line plotting of results by lot or individual basis becomes a moot point because snubbers must continue to be tested until the point falls into the "accept" region or until all snubbers have been tested.

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If testing continues to between 100 - 200 snubbers and the accept region has not been attained, then the actual percent of population quality (C/N)* would be used to indicate the probability of extended or 100 percent testing. A population quality of greater than or equal to 5% failed snubbers will probably result in extended testing. The proposed change also deletes references to the "reject" region in the text of Specification 4.7.5.e(2).

* Number of snubbers not meeting the acceptance criteria "C"/number of snubbers tested "N".

Figure 4.7.5-1 as it appears in the Technical Specification was developed using "Wald's Sequential Probability Ratio Plan". Statistical studies using Wald's sequential sampling plan indicate that a major change in the reject line caused an insignificant change in the accept line or in other words acceptance is independent of rejection. These studies also demonstrate that while the probability of false acceptance of a bad snubber population under the proposed amendment still exists, it is negligible. As long as the "reject" line remains in the sample plan there is some possibility of rejecting a good snubber population and consequently requiring an unnecessary 100% functional testing of snubbers with attendant ALARA and safety concerns, manpower utilization and outage extension. The proposed technical specification change will alleviate these problems and still ensure continued or additional testing if snubber quality of failed snubbers is equal to or greater than 5%. These changes have been previously evaluated by the NRC through ANSI/ASME OM-4 participation and by granting similar technical specification changes. References: Duke Power Company McGuire Nuclear Stations.

The third sampling plan, the "55 plan", described in Specification 4.7.5.e(3) also requires that a representative sample of snubbers be periodically tested. Deleting the "reject" line from the "37 plan" makes the "55 plan" unnecessary. Moreovér the "55 plan" is not a Wald sequential plan and as such has been deleted from the ANSI/ASME OM-4 draft document.

The proposed change clarifies additional functional testing requirements due to failure of snubbers. Technical Specification 4.7.5.e states that if during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing. The proposed change allows categorization of unacceptable snubbers into failure mode groups. A test failure mode group shall include all unacceptable snubbers that have a given failure mode and all other snubbers subject to the same failure mode. It allows independent testing of failure mode groups based on the number of unacceptable snubbers and requires one additional test sample from the general population for each failure mode group to provide assurance that failure mode groups have been properly established. This change is consistent with the ASME OM-4 document.

The proposed change also addresses the functional test failure analysis of locked up snubbers. Technical Specification 4.7.5.g states that if the cause of the locked up snubbers is due to manufacturer or design deficiency, all

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snubbers of the same type subject to the same defect shall be functionally "tested. The proposed change includes unexpected transient events as a cause of locked up snubbers in addition to manufacturer or design deficiency. All locked snubbers shall be replaced or repaired to original qualified condition.

Tested snubbers of the same type subject to the same defect are treated as one failure mode group. One additional test sample from the general population is required to provide assurance that the deficiency or transient event has been properly defined.

10CFR50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis using the standards in 10CFR50.92 concerning the issue of no significant hazards consideration. Therefore, in accordance with 10CFR50.91, the following analysis has been performed:

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated.

Reducing the percentage of additional snubbers to be tested from 10% to 5% for "10 percent plan" does not undermine the effectiveness of this surveillance. The initial test remains the same and is sufficient to provide an adequate sampling of the snubbers. This change reduces the amount of additional testing without affecting the previously established confidence level.

Deleting the "reject" line from "37 plan" does not affect acceptance of the snubber population because snubbers must continue to be tested until the acceptance criteria are met or until all snubbers have been tested. Deletion of the "reject" line from the "37 plan" also makes the "55 plan" unnecessary. Statistical studies indicate that these changes do not reduce the previously established confidence level and thus have no affect on the structural integrity of the reactor coolant system and other safety related systems under dynamic loading. Hence the probability or consequences of previously evaluated accidents are not significantly increased.

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes involve no changes to system design bases or system function and do not introduce any new variables beyond those previously considered.

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not involve a significant reduction in the margin of safety.

Although the proposed amendments do not involve changes in surveillance frequency or operating conditions, they do involve changes in surveillance methods and sample size but not individual acceptance criteria. However, statistical evidence indicates that while the probability of acceptance of a bad snubber population under the proposed amendments still exists, it does not represent a significant reduction to the margin of safety.

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