



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 84 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated January 28, 1992, the Detroit Edison Company, (DECo or the licensee) requested an amendment to Facility Operating License No. NPF-43 for the Fermi-2 plant. The proposed amendment would revise Technical Specification (TS) 4.7.5 to provide an alternative schedule for visual inspection of snubbers. The application was submitted in response to and in accordance with guidance contained in the staff's Generic Letter (GL) 90-09 "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions" dated December 11, 1990.

2.0 DISCUSSION

TS 4.7.5.b currently specifies a snubber visual inspection schedule that is based on the number of snubbers in a given system found inoperable during the previous visual inspection, irrespective of the size of the snubber population. The existing TS requirements establish inspection intervals in fractions of the nominal 18 month fuel cycle. These intervals are described in a table contained in TS 4.7.5.b. The purpose of the proposed TS change is to revise the snubber visual inspection interval to one that is based on the number of unacceptable snubbers found in proportion to the size of the population or category of snubbers included in the previous inspection. The next visual inspection interval may be twice (up to 48 months maximum), the same, or reduced to two-thirds of the previous inspection interval depending on the number of unacceptable snubbers found in the previous inspection. The requirements for determining the next inspection interval are contained in the proposed TS Table 4.7.5-1.

The licensee's proposed TS change differs slightly from the guidance contained in GL 90-09. If the GL 90-09 model TS were incorporated into Fermi-2 TS 4.7.5.b, "Visual Inspections," it would read as follows:

"Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.7.5-1. The visual inspection interval for each type of snubber shall

be determined based upon the criteria provided in Table 4.7.5-1 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before Amendment ."

The licensee's proposed TS 4.7.5.b reads as shown below. The underlined word, "category," indicates a deviation from the change presented in the GL 90-09 guidance.

"Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.7.5-1. The visual inspection interval for each category of snubber shall be determined based upon the criteria provided in Table 4.7.5-1. The first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before Amendment ."

The licensee has stated that the word "category" has been substituted for "type" to provide consistency with the wording used in the discussion of inaccessible and accessible snubber categories contained in the first two sentences of proposed TS 4.7.5.b and in the proposed TS Table 4.7.5-1. The model TS change for TS 4.7.5.b states that the snubber visual inspection interval for each "type" of snubber shall be determined by TS Table 4.7.5-1. "Type," as defined in Fermi-2 TS 4.7.5.a, refers to snubbers of the same design and manufacturer. Snubber "type" is to be used in snubber functional testing because snubber functional testing failures are more readily grouped by design and manufacturer. The licensee states that the type of snubber is not a factor in determining the snubber visual inspection interval as defined in the model snubber visual inspection interval table and the proposed TS Table 4.7.5-1. Snubber population or category is the determining factor. Therefore, when used in the context of snubber visual inspections, licensee believes that it is acceptable to substitute "category" for "type".

The licensee has reworded proposed TS 4.7.5.c to provide consistency with the existing nomenclature used in the rest of TS 3/4.7.5. If the exact wording of the changes for alternate snubber visual inspection intervals in the Reference 2 model TS was incorporated into Fermi-2 TS 4.7.5.c, "Visual Inspection Acceptance Criteria," it would read as follows:

"Visual inspections shall verify that: (1) there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are secure. Snubbers which appear inoperable as a result of visual inspection shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type on that system that may be generically

susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specifications 4.7.5f. For those snubbers common to more than one system, the OPERABILITY of such snubbers shall be considered in assessing the surveillance schedule for each of the related systems. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met."

The proposed TS 4.7.5.c, "Visual Inspection Acceptance Criteria" reads as shown below. The underlined words and phrases indicate deviations from the guidance presented in GL 90-09 and nomenclature changes from the current Fermi-2 TS 4.7.5.c:

"Visual inspections shall verify that: (1) there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specifications 4.7.5f. For those snubbers common to more than one system, the OPERABILITY of such snubbers shall be considered in assessing the OPERABILITY of each of the related systems. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met."

The licensee has substituted the word "functional" for "secure" because they believe "functional" better describes the condition of the foundation/supporting structure attachments and component/snubber anchorage fasteners required for a successful visual inspection of a snubber. This is a nomenclature change from the existing Fermi-2 TS and is not part of the changes for alternative snubber visual inspection intervals in GL 90-09. It is consistent with the nomenclature used in the current Standard Technical Specifications format.

The phrase "OPERABILITY of" is substituted for the phrase "surveillance schedule" to better define that equipment operability is being assessed when snubbers common to more than one system are declared inoperable. This is a nomenclature change from the existing Fermi-2 TS and is not part of the changes for alternate snubber visual inspection intervals in GL 90-09. However, this change is needed because GL 90-09 changes do not specify a surveillance schedule for each system.

The phrase "irrespective of type on that system" in the second sentence of the current TS 4.7.5.c has been removed. This phrase is currently included in the requirement that the cause of rejection for a particular snubber be remedied, not only for the affected snubber, but for all other snubbers on the same system that may be generically susceptible. As stated above, the reference to "type" is being removed from the snubber visual inspection requirements to maintain consistent nomenclature in the snubber visual inspection requirements. The phrase is not needed because the wording requires that the cause of the rejection be remedied "for other snubbers that may be generically susceptible." If the cause of the rejection is generic, then the type of snubber has no bearing on determining which snubbers are affected. The reference to "system" is eliminated because the proposed snubber visual inspection intervals are based on snubber population or category.

The licensee proposed TS also differs from the GL 90-09 guidance that all snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable for purposes of determining the next inspection interval. This is because there are no cases of multiple hydraulic snubbers connected to a hydraulic fluid reservoir at Fermi-2. Therefore, this provision is unnecessary. The related bases have been changed to reflect the proposed changes. Additionally, a typographical error was corrected in TS Bases 3/4.7.5 to reflect the correct value of additional snubbers tested (5% vice 10%) for each functional test failure determined in TS 4.7.5.e.1.

3.0 EVALUATION

As stated in GL 90-09, the snubber TS imposes surveillance requirements for functional testing and visual inspection of all safety-related snubbers. Functional testing verifies that a snubber can operate within specific performance limits. Functional testing involves removing the snubber and testing it on a specially designed test stand. Functional testing provides a 95 percent confidence level that 90 to 100 percent of the snubbers operate within the specified acceptance limits. A visual inspection is the observation of the condition of installed snubbers to identify those that are damaged, degraded, or inoperable due to external physical damage, leakage, corrosion, or environmental exposure. The visual examination is a separate process that complements the functional testing program and provides additional confidence in snubber operability.

Plants having a large snubber population, such as Fermi-2, find that the current visual inspection schedule is excessively restrictive. As stated in GL 90-09, some plants have spent significant resources and have subjected plant personnel to unnecessary radiological exposure to comply with the visual examination requirements.

The NRC determined that an alternative inspection schedule based on the number of unacceptable snubbers found during the previous inspection, the total population or category size for each snubber type, and the previous inspection

interval is acceptable. A snubber is considered unacceptable if it fails to meet its visual inspection acceptance criteria. The licensee shall perform and document a review and evaluation to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the licensee shall declare the snubber inoperable and shall meet the applicable action requirements. To determine the next surveillance interval, the licensee may reclassify the unacceptable snubber as acceptable if: (1) the cause of the rejection is determined and corrected for the affected snubber and other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined operable. Snubbers may be categorized as accessible or inaccessible and may be examined separately or jointly. The licensee must make and document that decision before any inspection and use that decision as the basis upon which to determine the next inspection interval for that category.

Use of this alternate inspection schedule will reduce personnel radiation exposure because it will be possible to reduce the number of inspections through extended inspection intervals and by allowing the added flexibility to schedule inspections during refueling outage time frames. Extended surveillance intervals will also be cost effective because reducing the number of inspections will reduce inspection man-hours and the associated material commitments.

Where the licensee's proposed TS differ slightly from the model TS included in GL 90-09, the staff has reviewed the licensee's justification and determined that the changes meet the intent of GL 90-09 and are, therefore, acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or a change to a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding (57 FR 22261). Accordingly, this amendment meets the eligibility criteria for categorical exclusion forth in 10 CFR 51.22 (c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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