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

SAFETY EVALUATION BY THE
OFFICE OF NUCLEAR REACTOR REGULATION
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT NUCLEAR STATION, UNIT NO. 1
DOCKET NO. 50-220

ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED ELECTRIC EQUIPMENT

INTRODUCTION

General Design Criteria 1 and 4 specify that safety-related electrical equipment in nuclear facilities must be capable of performing its safety-related function under environmental conditions associated with all normal, abnormal, and accident plant operation. In order to ensure compliance with the criteria, the NRC staff required all licensees of operating reactors to submit a re-evaluation of the qualification of safety-related electrical equipment which may be exposed to a harsh environment.

BACKGROUND

On February 8, 1979, the NRC Office of Inspection and Enforcement (IE) issued to all licensees of operating plants (except those included in the systematic evaluation program (SEP)) IE Bulletin (IEB) 79-01, "Environmental Qualification of Class IE Equipment." This Bulletin, together with IE Circular 78-08 (issued on May 31, 1978), required the licensees to perform reviews to assess the adequacy of their environmental qualification programs.

On January 14, 1980, NRC issued IE Bulletin 79-01B which included the DOR guidelines and NUREG-0588 as attachments 4 and 5, respectively. Subsequently, on May 23, 1980, Commission Memorandum and Order CLI-80-21 was issued and stated the DOR guidelines and portions of NUREG-0588 form the requirements that licensees must meet regarding environmental

qualification of safety-related electrical equipment in order to satisfy those aspects of 10 CFR 50, Appendix A, General Design Criterion (GDC) 4. Supplements to IEB 79-01B were issued for further clarification and definition of the staff's needs. These supplements were issued on February 29, September 30, and October 24, 1980.

In addition, the staff issued orders dated August 29, 1980 (amended in September 1980) and October 24, 1980 to all licensees. The August order required that the licensees provide a report, by November 1, 1980, documenting the qualification of safety-related electrical equipment. The October order required the establishment of a central file location for the maintenance of all equipment qualification records. The central file was mandated to be established by December 1, 1980. The staff subsequently issued Safety Evaluation Reports (SERs) on enviromental qualification of safety-related electrical equipment to licensees of all operating plants in mid-1981. These SERs directed licensees to "either provide documentation of the missing qualification information which demonstrates that safety-related equipment meets the DOR Guidelines or NUREG-0588 requirements or commit to a corrective action (re-qualification, replacement (etc.))." Licensees were required to respond to NRC within 90 days of receipt of the SER. In response to the staff SER issued June 8, 1981, the licensee submitted additional information regarding the qualification of safety-related electrical equipment.

EVALUATION

The acceptability of the licensee's equipment environmental qualification program was reviewed for the Division of Engineering by the Franklin Research Center (FRC) as part of the NRR Technical Assistance Program in support of NRC operating reactor licensing actions. The consultant's review is documented in the report "Review of Licensees Resolutions of Outstanding Issues from NRC Equipment Environmental Qualification Safety Evaluation Reports," which is attached.

We have reviewed the evaluation performed by our consultant contained in the enclosed Technical Evaluation Report (TER) and concur with its bases and findings. Our review has also revealed certain discrepancies in the TER which are being corrected by this Safety Evaluation as follows:

- o Delete the third paragraph on page 1-9 of the TER.
- o Delete the second paragraph on page 1-10 of the TER.

The staff has also reviewed the licensee's justification for continued operation regarding each item of safety-related electrical equipment identified by the licensee as not being capable of meeting environmental qualification requirements for the service conditions intended.

CONCLUSIONS

Based on the staff's review of the enclosed Technical Evaluation Report and the licensee's justification for continued operation, the following conclusions are made regarding the qualification of safety-related electrical equipment.

Continued operation until completion of the licensee's environmental qualification program has been determined to not present undue risk to the public health and safety. Furthermore, the staff is continuing to review the licensee's environmental qualification program. If any additional qualification deficiencies were identified during the course of this review, the licensee would be required to re-verify the justification for continued operation. The staff will review this information to ensure that continued operation until completion of the licensee's environmental qualification program will not present undue risk to the public health and safety.

The major qualification deficiencies that have been identified in the enclosed FRC TER (Tables 4-1, 4-2, 4-3, and 4-4) must be resolved by the licensee. Items requiring special attention by the licensee are summarized below:

- o Submission of information within thirty (30) days for any of the items in NRC categories I.a, II.a and II.b for which justification for continued operation was not previously submitted to NRC or FRC,
- o Resolution of the concern regarding completeness of the safety-related equipment list i.e., identification of safety-related systems and display instrumentation (See Section 4.3.1 of the FRC TER).

The licensee must provide the plans for qualification or replacement of the unqualified equipment and the schedule for accomplishing its proposed correction action.

PROPRIETARY REVIEW

Enclosed in the FRC Technical Evaluation Report (TER) are certain identified pages on which the information is claimed to be proprietary.

During the preparation of the enclosed TER, FRC used test reports and other documents supplied by the licensee that included material claimed to be proprietary by their owners and originators. NRC is now preparing to publicly release the FRC TER and it is incumbent on the agency to seek review of all claimed proprietary material. As such, the licensee is requested to review the enclosed TER with their owner or originator and notify NRR within seven (7) days of receipt of this Safety Evaluation whether any portions of the identified pages still require proprietary protection. If so, the licensee must clearly identify this information and the specific rationale and justification for the protection from public disclosure, detailed in a written response within twenty (20) days of receipt of the Safety Evaluation. The level of specificity necessary for such continued protection should be consistent with the criteria enumerated in 10 CFR 2.790(b) of the Commission's regulations.

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Date: DEC 20 1982