



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO EMERGENCY RESPONSE CAPABILITY, CONFORMANCE TO  
REGULATORY GUIDE 1.97, REVISION 2  
NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 1  
DOCKET NO. 50-220

1.0 INTRODUCTION

Niagara Mohawk Power Corporation (NMPC), the licensee, was requested by Generic Letter 82-33 to provide a report to the NRC describing how the post-accident monitoring instrumentation meets the guidelines of Regulatory Guide (R.G.) 1.97, as it applies to emergency response facilities. The licensee responded to the R.G. 1.97 portion of the generic letter on April 2, 1984. Additional information was provided by letters dated October 18, 1985 and December 6, 1985.

Subsequent to the issuance of the generic letter, the NRC held regional meetings in February and March 1983 to answer licensee and applicant questions and concerns regarding the NRC policy on R.G. 1.97. At these meetings, it was noted that the NRC review would only address exceptions taken to the guidance of R.G. 1.97. Further, where licensees or applicants explicitly state that instrument systems conform to the provision of the regulatory guide, it was noted that no further staff review would be necessary. Therefore, the review performed and reported by the staff's contractor, EG&G Idaho, Inc., only addresses exceptions to the guidance of R.G. 1.97. This Safety Evaluation addresses the licensee's submittals based on the review policy described in the NRC regional meetings and the conclusions of the review as reported by EG&G.

2.0 EVALUATION

We have reviewed the evaluation performed by our consultant contained in the enclosed TER and concur with its bases and findings. The licensee either conforms to, or has provided an acceptable justification for deviations from the guidance of R.G. 1.97 for each post-accident monitoring variable except for the variable neutron flux. All R.G. 1.97, Category 1 and 2 instruments located in a harsh environment shall be included in the environmental qualification program unless adequate justification is provided, as required in 10 CFR 50.49. The justification provided by the licensee is that the source range and intermediate range detectors are driven into the core as a result of the

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scram signal. A harsh environment to the driven components would be brief. The components normally operate in an environment of elevated temperature, though not a harsh environment. The licensee states that these twelve detectors plus the power range monitors are able to detect inadvertent reactivity insertions. However, the instrumentation has not been shown to provide reliable neutron flux data in a post-accident environment.

The staff has reviewed this justification and finds it not acceptable. The instrumentation has not been shown to provide the necessary information required for post-accident monitoring in accordance with R.G. 1.97. However, a Category 1 neutron flux monitoring system that meets all the criteria of R.G. 1.97 is an industry development item. Based on our review, we conclude that the existing instrumentation is acceptable for interim operation. The licensee has committed to follow industry development of the Category 1 instrumentation, evaluate the acceptability of the newly developed equipment, and install this instrumentation when it becomes available.

### 3.0 CONCLUSION

Based on the staff's review of the enclosed Technical Evaluation Report and the licensee's submittals, we find that the Nine Mile Point Unit 1 design is acceptable with respect to conformance to R.G. 1.97, Revision 2.

The staff also finds acceptable the licensee's commitment to follow industry development of Category 1 Neutron Flux instrumentation, evaluate the acceptability of this instrumentation, and install such equipment when it becomes available.

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Dated: November 19, 1986.

