



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

APR 27 1982

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Docket Nos.: 50-440/441

MEMORANDUM FOR: Robert L. Tedesco, Assistant Director
for Licensing
Division of Engineering

FROM: William V. Johnston, Assistant Director
Materials & Qualifications Engineering
Division of Engineering

SUBJECT: THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, PERRY NUCLEAR
POWER PLANT UNIT NOS. 1 AND 2, SAFETY EVALUATION REPORT
INPUT

Plant Name: Perry Nuclear Power Plant Unit Nos. 1 and 2
Suppliers: General Electric; Gilbert Associates
Licensing Stage: OL
Docket Nos.: 50-440/441
Responsible Branch & Project Manager: LB #2; John Stefano
Reviewer: J. O. Schiffgens
Description of Task: Safety Evaluation Report Input
Review Status: Incomplete

The applicant has supplied us with the information we requested. The turbine is unfavorably oriented with respect to the station reactor buildings. Furthermore, some aspects of the applicants analysis, for example, the procedure for calculating the probability of barrier perforation, are unacceptable to the staff. Evaluation of the information supplied would require considerable interaction with the applicant and a detailed independent analysis by the staff, which would be very time consuming.

As an alternative, we are in the process of preparing simplified Turbine Generator System requirements for transmittal to the Committee to Review Generic Requirements (GRGR). These requirements are intended to replace Regulatory Guide 1.115 and Standard Review Plans 3.5.1.3, 10.2, and 10.2.3, reducing considerably the burden placed on licensees, improving the regulation of turbine generator system reliability, and conserving NRC resources, while at the same time maintaining the level of protection of public health and safety.

XA Copy Has Been Sent to PDR

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As soon as these new requirements are accepted by CRGR, we will transmit to you a Supplementary Safety Evaluation Report contribution which implements the new requirements(criteria and guidelines).

Our current input to the Safety Evaluation Report is included in Attachment 1.

William V. Johnston

William V. Johnston, Assistant Director
Materials & Qualifications Engineering
Division of Engineering

Enclosure: As stated

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ATTACHMENT 1
DOCKET NUMBER 50-440/441
SAFETY EVALUATION REPORT
MATERIALS ENGINEERING BRANCH
COMPONENT INTEGRITY SECTION

3.5.1.3 Turbine Missiles

According to General Design Criterion 4, of Appendix A to 10 CFR Part 50, nuclear power plant structures, systems, and components important to safety shall be appropriately protected against dynamic effects including the effects of turbine missiles. Of those systems important to safety, this section is primarily concerned with safety related systems; i.e., those structures, systems, or components necessary to perform required safety functions and to ensure:

1. The integrity of the reactor coolant pressure boundary,
2. The capability to shut down the reactor and maintain it in a cold shut down condition, or
3. The capability to prevent accidents that could result in potential offsite exposures that are a significant fraction of the guideline exposures of 10 CFR Part 100, "Reactor Site Criteria."

The Perry turbine-generators were manufactured by the General Electric Corporation and the placement and orientation of each is unfavorable with respect to the station reactor buildings; that is, there are safety-related targets inside the low trajectory missile (LTM) strike zone. Additional information that was requested from the applicant has been received by the staff and is currently under review. Until the staff completes the review this will remain an open item.