

NOV 12 1981

Docket No. 50-305

Mr. Eugene R. Mathews, Vice President  
Power Supply and Engineering  
Wisconsin Public Service Corporation  
Post Office Box 1200  
Green Bay, Wisconsin 54305

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RLicciardo  
SVarga  
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Dear Mr. Mathews:

SUBJECT: REVIEW OF STATUS ANNUNCIATORS FOR DISABLING CONDITIONS FOR  
EMERGENCY POWER DIESEL GENERATORS

On March 29, 1977, the NRC issued a request by letter, A. Schwencer (NRC) to E. W. James (WPSC), to the above subject. We have completed our review of your responses by letter of June 9, 1977, E. W. James (WPSC) to A. Schwencer (NRC) and by telephone with M. Marchi of your staff on April 25, 1979. We have also reviewed information furnished by the Resident Inspector as advised in Inspection Report No. 81-01 of April 16, 1981.

Based on our review, we find that the Status Annunciators for the Disabling Condition for Emergency Power Diesel Generators at the Kewaunee Nuclear Power Plant are acceptable in respect of the concerns expressed in our initiating letter of March 29, 1977 to E. W. James (WPSC) from A. Schwencer (NRC) and as applied to those Annunciators which are the subject of Regulatory Guide 1.47 "By-passed and Inoperable Status Indication for Nuclear Power Plant Safety Systems."

A copy of the Safety Evaluation Report is enclosed.

Sincerely,

Original signed by:

S. A. Varga

Steven A. Varga, Chief  
Operating Reactors Branch #1  
Division of Licensing

Enclosure:  
As stated

cc w/enclosure:  
See next page

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SURNAME	RLicciardo	SVarga	JLazeynick				
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Mr. Eugene R. Mathews  
Wisconsin Public Service Corporation

cc: Steven E. Keane, Esquire  
Foley and Lardner  
777 East Wisconsin Avenue  
Milwaukee, Wisconsin 53202

Kewaunee Public Library  
822 Juneau Street  
Kewaunee, Wisconsin 54216

Stanley LaCrosse, Chairman  
Town of Carlton  
Route 1  
Kewaunee, Wisconsin 54216

U. S. Nuclear Regulatory Commission  
Resident Inspectors Office  
Route #1, Box 999  
Kewaunee, Wisconsin 54216



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

FOR

REVIEW OF STATUS ANNUNCIATORS FOR DISABLING CONDITIONS

FOR EMERGENCY POWER DIESEL GENERATORS

INTRODUCTION

On March 29, 1977, a generic letter was sent to all licensees requesting that they forward information about the status annunciator system for the diesel generators at their operating reactors. This request for information was prompted by Licensee Event Reports on incidents where diesel generators failed to respond to automatic start signals because control switches or lockout and shutdown relays were left in the shutdown condition by operators unaware of their status. The principal reasons for this lack of awareness were: (1) the sharing of annunciator stations for both disabling and non-disabling alarm conditions; (2) wording on annunciator windows for disabling conditions which did not specifically say a diesel generator was unavailable for an automatic emergency start; and (3) disabling conditions which were not annunciated in the control room.

Plant Systems Branch, Division of Operating Reactors, reviewed the responses of the licensees and issued a report dated November 14, 1977 (Memorandum for K. R. Goller, AD for Operating Reactors, DOR from D. G. Eisenhut, AD for Operational Technology, DOR). Lawrence Livermore Laboratory also issued a report, LLL Report UCID-18145, entitled: Status of Evaluation and Modifications of Diesel Generator Status Annunciator Systems at Various U.S. Nuclear Power Plants, October 1979.

EVALUATION BASIS

Like the previous reviews, this review has not attempted to perform a complete evaluation of the annunciator systems. Attention was primarily focused on those annunciators that are within the scope and intent of Regulatory Guide 1.47, "Bypassed and Inoperability Status Indication for Nuclear Power Plant, Safety Systems," dated May 1973. That is, only those deliberately induced conditions

that render safety equipment inoperable and are expected to occur more than once a year were reviewed to assure they are alarmed in the control room with devices clearly worded to alert the operator to the inoperable status of the diesel generators. The information needed to do the evaluation was attained from telephone conversations with the licensee's staff on April 25, 1979, the licensee's response dated June 9, 1977, and discussions and inputs from the Kewaunee resident inspector as per Inspection Report No. 81-01 of April 16, 1981.

#### EVALUATION

We find that for the Kewaunee Nuclear Power Plant:

1. Any deliberately induced condition which disables the Diesel Generator and which is expected to occur more frequently than once per year, is automatically annunciated in the control room with devices worded to alert the trained operator to their disabled status.
2. All shared annunciators for disabling conditions cannot be cleared in the control room until all the disabling conditions are corrected.
3. Disabling conditions and abnormal conditions do not share the same annunciator.
4. Annunciators for disabling conditions are located on the main control panels with acceptable visibility to Control Room operators.
5. The condition of the diesel generator output breaker is annunciated in the Control Room.
6. There are no manual shutdown lockout relays which are not alarmed in the control room.

#### CONCLUSION

Based on our review of the licensee's submittals, and on site inspections by the Resident Inspector, we find that the status annunciators for Disabling Conditions for Emergency Power Diesel Generators at the Kewaunee Nuclear Power Plant are acceptable in respect of the concerns expressed in an initiating letter of March 29, 1977 to E. W. James (WPSC) from A. Schwencer (NRC) as applied to those annunciators which are the subject of Regulatory Guide 1.97 "Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems."