



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

NUREG PUBLIC INFORMATION ROOM

JUN 26 1979

MEMORANDUM FOR: N. Moseley, Director, Division of Reactor Operations
Inspection

FROM: B. Grimes, Assistant Director for Engineering and
Projects, Division of Operating Reactors

SUBJECT: IMPLEMENTATION OF THE RECOMMENDATIONS CONTAINED IN
"ENHANCEMENT OF ONSITE EMERGENCY DIESEL GENERATOR
RELIABILITY" - NUREG/CR 0660

REFERENCE: NUREG/CR 0660 - Enhancement of Onsite Emergency
Diesel Generator Reliability

The University of Dayton Research Institute (U of D) completed their contract under Task B-56, Diesel Reliability, and submitted a final report, NUREG/CR 0660, entitled, "Enhancement of Onsite Emergency Diesel Generator Reliability." It has been reproduced and is now being distributed to all operating facilities, construction permit holders and all applicants for construction permits.

We have reviewed and evaluated the recommendations contained in the report and find them to be appropriate for consideration in improving diesel generator reliability.

We believe that the recommendations contained in NUREG/CR 0660 be the basis for an I&E Bulletin by which operating facilities would be advised of the results of the study and would be required to review their facility design and implement changes as appropriate.

With the exception of one recommendation, the recommendations are generic i.e., common to all diesel generators regardless of manufacturer. The exception relates to the "turbocharger gear drive change-over" problem which is unique to one diesel engine vendor. This vendor has supplied information indicating that the design has been revised and kits, comprised of replacement parts, are available.

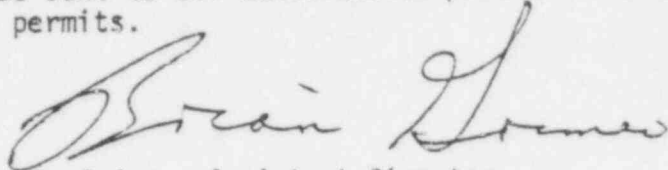
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Attached is a draft I&E Bulletin which should be sent to operating facilities and, for information, may also be sent to all construction permit holders and applicants for construction permits.



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for Engineering and Projects
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Enclosure:
Suggested I&E Bulletin

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SUGGESTED I&E BULLETIN
USNRC
OFFICE OF INSPECTION & ENFORCEMENT
WASHINGTON, DC 20555
JUNE 1979
IMPLEMENTATION OF THE RECOMMENDATIONS CONTAINED IN
NUREG/CR 0660, "ENHANCEMENT OF ONSITE EMERGENCY DIESEL
GENERATOR RELIABILITY"

DESCRIPTION

The University of Dayton Research Institute (U of D) was contracted to assist the NRC in determining possible corrective actions that would improve diesel generator reliability. A review of diesel Generator (DG) maintenance, operating experience, and a comparative evaluation with respect to DG manufacturer recommendations was performed and recommendations made. Information was collected from a number of sources: a previous NRC reliability study; licensee event reports (LER) from 1969 through late 1977; operating nuclear power plant licensee responses to a generic questionnaire; visits to twenty operating units and four engine manufacturers; a literature search; visits to two non-nuclear large scale users of standby emergency diesel generators and the applicable NRC Regulatory Guides, NRC Standard Review Plans, NRC Branch Technical Positions, Code of Federal Regulations, and IEEE Standards.

The U of D's final report, "Enhancement of Onsite Emergency Diesel Generator Reliability", NUREG/CR 0660, is being distributed to all operating facilities, holders of construction permits and applicants for construction permits. The U of D recommendations are presented in Section V of this report. The three groups of recommendations are presented below, in descending order of importance. With the exception of one recommendation (i.e., the turbocharger gear drive changeover), they are generic in nature.

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1. Most Significant Problems
 - a. Moisture In The Air Starting System
 - b. Dust and Dirt in Diesel Generator Compartments
 - c. Turbocharger Gear Drive Changeover
 - d. Personnel Training.

2. Significant Problems
 - a. Length of Pre-lube Time
 - b. Testing, Test Loading & Preventative Maintenance
 - c. Improve the Identification of Root Causes

3. Additional Problems
 - a. D.G. Room Ventilation and Combustion
Air Intake Systems
 - b. Fuel Storage and Handling
 - c. High Temperature Insulation For Generator Overload
Conditions
 - d. Engine Cooling Water Temperature Control
 - e. Concrete Dust Control
 - f. Vibration of Instruments and Controls

By means of this I&E Bulletin, we are requesting all operating facilities to a) review NUREG/CR 0660; and b) prepare and submit a report containing a response to each of the recommendations in Section V of the report within ____ days of receipt of this Bulletin. The responses are to describe the results of their review of the applicability of each of the recommendations to their facility and their commitments to implement those recommendations thought to be applicable.

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