Omaha Public Power District
1623 Harney Omaha, Nebraska 68102
402/536-4000

January 28, 1985
LIC-85-030

Mr. Darrell G. Eisenhut, Director
Office of Nuclear Reactor Regulation
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

References: ( ) Docket No. 50-285

(2) NRC Generic Letter 84-15 dated July 2, 1984

(3) Letter OPPD (R. L. Andrews) to NRC (D. G. Eisenhut) dated December 28, 1984 (LIC-84-413)

Dear Mr. Eisenhut:

Diesel Generator Reliability
Generic Letter 84-15

Reference (3) provided the Omaha Public Power District's response to Generic Letter 84-15 (Reference 2). This response stated that certain information was still under review and that if any information was altered as a result of that review, those changes would be submitted.

The District has completed the review of the Reference 3 submittal. Accordingly, please find attached under oath or affirmation, revised pages to our December 28, 1984 submittal. Changes from the original are denoted by vertical lines in the right hand margin.

Sincerely,

R. L. Andrews
Division Manager
Nuclear Production

RLA/DJM/dao

Attachment

cc: LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, N.W.
Washington, DC 20036

Mr. E. G. Tourigny, NRC Project Manager
Mr. L. A. Yandell, NRC Senior Resident Inspector

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Omaha Public Power District	)	Docket No. 50-285
(Fort Calhoun Station,	)	
Unit No. 1)	)	

AFFIDAVIT

R. L. Andrews, being duly sworn, hereby deposes and says that he is Division Manager - Nuclear Production of the Omaha Public Power District; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached revised pages to the District's original Generic Letter 84-15 response LIC-84-413 dated December 28, 1984; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

R. L. Andrews
Division Manager
Nuclear Production

STATE OF NEBRASKA)
) ss
COUNTY OF DOUGLAS)

Subscribed and sworn to before me, a Notary Public in and for the State of Nebraska on this 28 day of January, 1985.

GENERAL NOTARY - State of Nebraska
JAMES J. FISICARO
My Comm Exp 10/23/87

James J. Fisicaro
Notary Public

Generic Letter 84-15
Enclosure 2

Diesel Generator Reliability Data

NRC Request - Reliability Data

Licensees are requested to report the reliability of each diesel generator at the plant for its last 20 and 100 demands. This should include the number of failures in the last 20 and 100 valid demands indicating the time history for these failures. Licensees are requested to indicate whether they maintain a record which itemizes the demands and failures experienced by each diesel generator unit, in the manner outlined in Regulatory Guide 1.108, Position C.3.a., for each diesel generator unit. Licensees should also indicate whether a yearly data report is maintained for each diesel generator's reliability. The criteria for determining the reliability of diesel generators is as follows:

a. Valid demands and failures are to be determined in accordance with the recommendations of Regulatory Guide 1.108, Position C.2.e.

b. The reliability of each diesel generator will be calculated based on the number of failures in the last 100 valid demands."

District Response

The District compiled a listing of the operating history for the diesel generators at Fort Calhoun. This listing was compiled in accordance with Regulatory Guide 1.108, Position C.2.e, with the following interpretations:

1. A valid successful run was one in which the diesel was loaded to greater than 50% rated load for 40 minutes or more, and at the end of the run was shut down voluntarily, not to avoid damage due to a component failure.

2. Failure to meet the 10 second start criteria was not considered a failure unless the engine did not start at all.

3. Failure to start on primary or secondary air followed by a successful start on the alternate air system was not considered a failure.

4. If a failed component was identified during routine inspection and repaired before a start was attempted, no failure was reported.

Data prior to 1977 were not included because operating procedures at that time did not require running the diesels more than 15 minutes. This produced misleading information for that time period which did not accurately reflect reliability history.

The District believes that the information is accurate based on the information researched. The District had as its primary goal the determination of whether additional effort to improve reliability was required. Some judgement was required on older and less complete records. However, the District believed that additional review would not alter these reliability numbers significantly. Attachment 3 provides the District's plans for improving reliability.

(Revised 1/28/85)

The reliability, utilizing criteria of Regulatory Guide 1.108 and the above stated deviations, figures yielded are approximately 90.4% for DG-1 (85 successes in 94 attempts) and approximately 91.6% for DG-2 (87 successes in 95 attempts). For the last 20 demands, the reliability was 90% for DG-1 and 90% for DG-2. The attachment to this enclosure summarizes the time history and cause of the failures.

The District does not at this time maintain a record in the manner outlined in Regulatory Guide 1.108, Position C.3.a, which itemized the demands and failures experienced by each diesel generator unit. At the present time a yearly report of each diesel generator's reliability is not maintained. Upgrades to our methods of recordkeeping are under consideration and are discussed further in Enclosure 3.

(Revised 1/28/85)

DIESEL GENERATOR FAILURES

DG-1	CAUSE
06/16/78	100 Amp Fuse Failure
07/05/78	Generator Exciter Malfunction
07/07/78	Exciter Control Malfunction
08/09/78	Exciter Control Malfunction
03/09/79	Start Pushbutton Failure
02/21/80	Air Intake Plugged
11/05/80	Relay Contact Stuck
11/11/83	Exciter Control & Speed Sensor Controls Malfunction
07/11/84	Governor Malfunction

DG-1 Valid Tests 94
Failures 9
Two Failures in the Last 20

DG-2	CAUSE
11/16/78	Breaker Failure
01/22/80	Zener Diode Failure
01/22/80	Radiator Tube Leak
04/23/80	Start Relay Failure
03/24/82	Coolant Leak
05/19/82	Pushbutton Failure
01/18/83	Priming Pump/Governor Malfunction
09/21/83	Exciter Control Malfunction

DG-2 Valid Tests 95
Failures 8
Two Failures in the Last 20

Attachment to
Enclosure 2

(Revised 1/28/85)