



Commonwealth Edison

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October 12, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

*Incorrect date in
enclosure - corrected by
CECo ltr 1/18/85*

Subject: Quad Cities Station Units 1 and 2
Response to Generic Letter No. 84-15
NRC Docket Nos. 50-254/265

- References (a): Generic Letter 84-15 - D. G. Eisenhower
letter to All OLs and CPs dated July 2, 1984
- (b): September 28, 1984 G. L. Alexander
letter to H. R. Denton

Dear Mr. Denton:

Reference (a) requested that all operating plants furnish information and comments concerning diesel generator reliability and proposed staff actions within ninety days of Generic Letter's 84-15 issuance. Reference (b) stated that the Quad Cities response would be submitted by 10-15-84. Attached is Quad Cities response to Generic Letter 84-15.

To the best of my knowledge and belief the statements contained in the Attachment are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison employees, contractor employees and consultants. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Please address any questions that you or your staff may have concerning our response to this office.

One signed original with Attachment and forty copies are being provided for your use.

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PDR ADOCK 05000254
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Respectfully,

Greg Alexander

Greg Alexander
Nuclear Licensing Administrator

cc: RIII Inspector - QC

SUBSCRIBED and SWORN to
before me this 12th day
of October, 1984

Ronald A. Penta
Notary Public

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ATTACHMENT
QUAD CITIES UNITS 1 AND 2
COMMONWEALTH EDISON COMPANY

1. Reduction in Number of Cold Fast Start Surveillance Tests

Electro-Motive Division diesel engine models 20-645E4 and 20-645E4B supplied by Western Engine are utilized as the emergency diesel generators at Quad Cities Station. These models are 20 cylinder, 45 degree Vee, two-stroke cycle, turbocharged diesel engines, providing a piston displacement of 645 cubic inches.

A review of the engine operating manual and conversations with the Western Engine service representatives have indicated that fast cold starts should be avoided whenever possible and practical. Both agree that minimization of fast cold starts would significantly reduce engine wear and ultimately improve diesel generator reliability and life expectancy.

Although the soak back oil pump circulates heated lubricating oil through the diesel engine during shutdown, the operating manual and service representatives recommended a minimum engine "warm-up" period of 90 seconds. This warm-up entails starting the diesel and operating it at the specified idle speed of 400 rpm. Subsequent to the warm-up period, the diesel generator may be accelerated to the rated operating speed of 900 rpm and loaded to a minimum of 40 percent of the rated load. This ensures that proper bearing lubrication is taking place and minimizes thermal stresses on engine components.

To reduce the actual number of diesel generator starts, the Technical Specifications that require operability testing of the diesel generators for inoperable equipment will be deleted via Technical Specification change. However, the Station procedures will retain verification of diesel generator status for availability even after the Technical Specification change (i.e., no associated equipment out of service, diesel generator control switch in "AUTO", etc.).

Although the number of required diesel generator starts will be reduced, fast cold start capability testing will not be totally eliminated. Technical Specification 4.9.E.2.a and 4.9.E.b, which require simulated emergency auto-starts of diesel generators, will remain unchanged.

To reduce excessive engine wear, surveillances which require routine diesel generator operability testing (i.e. monthly operability and/or post-maintenance surveillance) will incorporate the 90 second warm-up period into the surveillance

procedure. All other requirements of the surveillance will remain unchanged. This will sufficiently demonstrate the diesel generator's ability to start and load.

2. Diesel Generator Reliability Data

Diesel generator reliability data were obtained in accordance with the recommendations of Regulatory Guide 1.108 position C.2.e. The primary source of the data was the Unit Operating Log Books, with Deviation Reports and Surveillance Checksheets utilized as secondary sources.

Although no independent record is maintained of diesel generator starts and failures, the combination of Unit Operating Log Book entries, Deviation Reports, and Surveillances clearly identify diesel generator starts, run times, and failures. These may be utilized as a record of diesel generator reliability data information.

The following is a summary of diesel generator demands and failures for the 20 and 100 demands criteria, with a time history for the associated failure.

Diesel Generator 1

Failures in last 20 starts = 4

Failures in last 100 starts = 5

Diesel Generator reliability = 95%

<u>FAILURE</u>	<u>DURATION</u>	<u>DATE</u>
Failure 1	20 min.	07-29-84
Failure 2	20 min.	06-07-84
Failure 3	1 hr. 10 min.	06-12-84
Failure 4	1 hr. 5 min.	04-28-84
Failure 5	3 hr. 11 min.	12-15-84

Diesel Generator 1/2

Failures in last 20 starts = 2

Failures in last 100 starts = 3

Diesel Generator reliability = 97%

<u>FAILURE</u>	<u>DURATION</u>	<u>DATE</u>
Failure 1	20 min.	07-28-84
Failure 2	41 hr. 20 min.	07-28-84
Failure 3	1 min.	02-02-83

Diesel Generator 2

Failures in last 20 starts = 0

Failures in last 100 starts = 4

Diesel Generator reliability = 96%

<u>FAILURE</u>	<u>DURATION</u>	<u>DATE</u>
Failure 1	28 hr. 42 min.	10-06-84
Failure 2	20 hr.	10-30-84
Failure 3	3 hr.	10-26-84
Failure 4	43 hr. 40 min.	10-26-84

3. Diesel Generator Reliability

Monthly maintenance performed on the diesel generator coupled with surveillance testing of the diesel generators has yielded reliability ratings of 95% to 97%. It is felt that maintaining the present program of monthly maintenance, along with implementing the changes noted in section 1, provide for diesel generator reliability consistent with safe plant operation.