



PECO Energy Company
Nuclear Group Headquarters
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

June 2, 1994

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Limerick Generating Station, Units 1 and 2
Technical Specifications Change Request 92-03-0
Request for Additional Information

Gentlemen:

By letter dated October 15, 1992, PECO Energy Company submitted Technical Specifications (TS) Change Request No. 92-03-0 for Limerick Generating Station (LGS), Units 1 and 2, requesting changes to the LGS TS surveillance intervals to facilitate a change in LGS refueling cycles from 18 months to 24 months.

By letter dated January 24, 1994, the NRC provided a summary of a December 14, 1993 meeting attended by PECO representatives and the NRC staff regarding the risk of performing 24-hour Emergency Diesel Generator (EDG) testing at power. The summary included discussions from a subsequent telephone conference call. The January 24, 1994 letter stated that based on the information provided by PECO, the NRC Electrical Engineering Branch was to complete a safety evaluation addressing the 24 month fuel cycle TS amendment.

By telephone on May 24, 1994, the NRC, LGS, Project Manager, requested information concerning EDG TS Surveillance Testing which supported the January 24, 1994 NRC correspondence. The responses, contained in Attachment 1, support our determination that performance of TS Surveillance Requirement 4.8.1.1.2.e.8 at least once during a refueling cycle (i.e., either a nominal 18 or 24 months) while the associated unit is at power does not result in a reduction of plant safety or increase the probability of EDG failure as a result of a fault in the offsite power source.

Attachment 1 to this letter contains a restatement of the questions and the associated response. This information is being submitted under affirmation, and the required affidavit is enclosed.

090064

9406080235 940602
PDR ADDCK 05000352
P PDR

ADDI

Page 2

If you have any questions, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in cursive script that reads "G. A. Hunger, Jr.".

G. A. Hunger, Jr., Director
Licensing

Attachment

Enclosure

cc: T. T. Martin, Administrator, Region I, USNRC (w/ attachment and enclosure)
N. S. Perry, USNRC Senior Resident Inspector, LGS (w/attachment and enclosure)
R. R. Janati, PA Bureau of Radiological Protection (w/attachment and enclosure)

COMMONWEALTH OF PENNSYLVANIA :

: ss.

COUNTY OF CHESTER :

W. H. Smith, III, being first duly sworn, deposes and says:

That he is Vice President of PECO Energy Company, the Applicant herein; that he has read the requested additional information for Technical Specifications Change Request No. 92-03-0 to facilitate a change in the Limerick Generating Station, Unit 1 and Unit 2, License Nos. NPF-39 and NPF-85, refueling cycles from 18 months to 24 months, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.



Vice President

Subscribed and sworn to

before me this *2nd* day

of *June* 1994.



Notary Public

Notarial Seal
Erica A. Santori, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires July 10, 1995

ATTACHMENT 1

Limerick Generating Station
Units 1 and 2

Docket Nos.
50-352
50-353

License Nos.
NPF-39
NPF-85

Request for Additional Information
Supporting Technical Specifications
Change Request 92-03-0

**Additional Information Concerning Emergency Diesel Generator
Technical Specifications (TS) Surveillance Testing
at Limerick Generating Station (LGS), Units 1 and 2**

Background

Each unit at the LGS has four (4) dedicated EDGs, and each EDG powers a separate 4 kV safeguard bus. As stated in the TS Bases for TS Section 3/4.8.1, "AC Sources," two (2) EDGs per unit are required for design basis accident mitigation. Furthermore, the 4 kV safeguard busses can be cross-tied via manual operator actions.

In addition to the information contained in a NRC letter dated January 24, 1994, the responses to the following questions support our determination that performance of TS Surveillance Requirement (SR) 4.8.1.1.2.e.8, at least once during a refueling cycle (i.e., either a nominal 18 or 24 months) while the associated unit is at power does not result in a reduction of plant safety or increase the probability of EDG failure as a result of a fault in the offsite power source. This determination includes consideration of the information in IE Information Notice (IN) No. 84-69, "Operation of Emergency Diesel Generators," Supplement 1 to IN No. 84-69, and IN No. 83-17, "Electrical Control Logic Problem Resulting in Inoperable Auto-Start of Emergency Diesel Generator Units."

Question 1

Has TS SR 4.8.1.1.2.e.8 (i.e., 24 hour run of the EDG while the EDG is paralleled to the offsite power source) been performed on all eight (8) EDGs while the associated unit was at power?

Response

The 24 hour surveillance test has been performed on all eight EDGs while the associated unit was at power.

Question 2

Do any other plants perform the 24 hour EDG run surveillance test while the associated unit is at power?

Response

PECO checked with a few other plants and found that the 24 hour EDG run test is performed while the unit is at power at some plants. This sampling included multi-unit sites where the EDGs are shared between the units (i.e., the EDGs are not dedicated to a unit as at LGS). In these cases, the 24 hour run test is performed while one unit is shutdown and the other unit is at power at one plant, and at the other plant with shared EDGs, the 24 hour run test is performed while both units are at power.

Question 3

What is the safety significance of performing the 24 hour EDG run test while the associated unit is at power?

- a) Describe the design features that enable the EDG to switch from the test mode to the emergency mode.

Response

As stated in the LGS Updated Final Safety Analysis Report (UFSAR), Section 8.3.1.1.3.7, "Testing," if the EDG is running in the test mode and an emergency demand EDG start signal is received, the EDG controls will automatically switch the EDG governor from the droop (i.e., parallel) to the isochronous mode and place the voltage regulator in the automatic mode to avoid the droop. The EDG breaker will also be automatically tripped if offsite power is available. Thus, the control of the EDG is returned to the automatic control system (e.g., trips that are normally bypassed in the emergency demand condition are, in fact, bypassed) and loading of the EDG may proceed.

- b) Describe the safety related and non-safety related protection between the offsite power source.

Response

There are two breakers, one safety related and one non-safety related, including the associated protective relays (e.g., reverse power), between the offsite power source (i.e., 13 kV) and each 4 kV safeguards bus. There are also two transformers between the offsite power source and the 4 kV safeguard busses. There is a safety-related breaker, including associated protective relays (e.g., differential current, over-current), between each EDG and its associated 4 kV bus.

- c) How many EDGs are required to mitigate the design basis accident, (i.e., a concurrent Loss of Offsite Power (LOOP) and Loss of Coolant Accident (LOCA)?)

Response

As stated in the Bases for TS Section 3/4 8.1, "AC Sources," at least two of the four EDGs per unit and their corresponding DC power source and distribution systems providing power for at least two Emergency Core Cooling System (ECCS) divisions are required for design basis accident mitigation as discussed in UFSAR Table 6.3-3.

- d) Is more than one EDG subjected to the 24 hour run test at the same time?

Response

Only one EDG at a time is in the 24 hour run test.

- e) What is the risk significance of performing the 24 hour EDG run test while the associated unit is at power?

Response

The low overall LGS Core Damage Frequency (CDF) accounts for EDG unavailability due to testing and maintenance while the associated unit is at power. Furthermore, the probability of a design basis LOOP/LOCA occurring during the one 24 hour period per unit operating cycle for each EDG, that an EDG is paralleled to the offsite power source and an offsite power source disturbance renders the connected EDG inoperable, is so small as to have no impact on the overall CDF.

- f) Are procedures in place that provide operator instructions for cross-connecting the 4 kV safeguards busses?

Response

An Event (E) Procedure, E-10/20, "Loss of Offsite Power," provides direction to cross-tie the 4 kV busses during an emergency situation. This procedure is performed by the operators during the Licensed Operator Training classes.