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SR. VICE PRESIDENT
NUCLEAR POWER

JUN 21 1984

Mr. A. Schwencer, Chief
Licensing Branch No. 2
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Limerick Generating Station
Docket Number 50-352
Information for Chemical Engineering Branch

Reference: 1) Meeting Between PECO and NRC Staff on June 6, 1984 to Review Project Status
2) Meeting between PECO and NRC Staff on June 13, 1984 to Review Implementation of the Fire Protection Program

Dear Mr. Schwencer:

At the reference 1) meeting, PECO discussed the potential deferral of certain fire protection items beyond the scheduled fuel load date.

Fire protection at Limerick has undergone an extended, thorough review by the staff. We believe that the fire protection program which this review has produced will provide a level of safety that is commensurate with the requirements of Appendix R and the Branch Technical Position. The recently completed fire protection audit, conducted by NRC headquarters and regional personnel together with contractor employees, adds substance to assertions of the adequacy of our program. The audit identified but 6 areas of concern requiring additional work.

The staff's fire protection review and the audit have produced a program consisting of commitments which Philadelphia Electic Company intends to honor. A review of the schedule for items to be completed prior to fuel load indicates that the justifiable deferral of a small number of items from the total fire protection program to the first refueling outage would assure that the plant is fully prepared to load fuel and perform start-up and power ascension testing in a safe and orderly manner. The reference 2) meeting was held to review implementation of the Fire Protection Program and discuss these justifiable deferrals with the staff.

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The need for this small number of deferrals results, to a large extent, from items beyond Philadelphia Electric's control. These include a four month long strike by workers involved in the installation of fire protection items and the addition of work items by the fire protection audit. It should be noted that most items added by the audit will be completed prior to fuel load. The requested deferrals will provide us with the flexibility required to allow the balance of start-up activities to be completed free from interference.

The discussions at the reference 2) meeting allowed the NRC staff and the PECO representatives to review the implementation and safety aspects of each of the 6 proposed deferrals. The meeting produced agreement that 4 of the work items could be deferred until prior to the issuance of a license to exceed 5% power and that 2 of the items could be deferred until prior to the completion of the first refueling outage.

Attachment A lists the work items being deferred and the time by which it was agreed that the work being deferred must be completed. Attachment B provides a detailed description of each item together with a justification for the deferral.

As discussed at the meeting, PECO is reviewing information associated with the deferral of items 1, 4 and 6 as listed on Attachment A. If this review indicates that deferral of the work until sometime past the issuance of a license to exceed 5% power is justified, we will review this information with the NRC staff.

Sincerely,

J W Gallagher
for
V S Boyer

JTR/mlb/06128404

cc: See Attached Service List

cc: Judge Lawrence Brenner (w/enclosure)
Judge Richard F. Cole (w/enclosure)
Troy B. Conner, Jr., Esq. (w/enclosure)
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Martha W. Bush, Esq. (w/enclosure)
Mr. James Wiggins (w/enclosure)
Mr. Timothy R. S. Campbell (w/enclosure)
Ms. Phyllis Zitzer (w/enclosure)
Judge Peter A. Morris (w/enclosure)

Attachment A

Fire Protection Deferrals	Completion Deferred Until*
1. Encapsulation of Raceway Required for Safe Shutdown.	5%
2. Sprinkler Systems and Hose Reels.	1st RF
3. Heat Shield and Spill Protection - Load Centers at El 313 Reactor Building.	5%
4. Repair of Existing Structural Steel Coating.	5%
5. Access Stairway For Fire Brigade - Turbine Enclosure to Unit 2 Static Inverter Room.	1st RF
6. Internal Seals for Conduits That Penetrate Fire Barriers.	5%

*Key to deferral date

5% = Prior to going over 5% Power.

1st R.F. = Prior to the completion of first refueling outage.

ENCAPSULATION OF RACEWAY REQUIRED FOR SAFE SHUTDOWN

DESCRIPTION OF DEFERRAL:

In certain areas of the control structure and reactor enclosure, 3 hour and 1 hour fire rated encapsulation is being installed on raceways containing cables. The fire rated encapsulation is being applied to both raceways and their supports. The effort requires custom fitting of the encapsulation material in congested areas of the plant.

A total of 2837 feet of raceway in 13 different fire areas requires encapsulation. The encapsulation effort was significantly impacted by a 120 day long strike last year by the craft responsible for installation of the encapsulation material. The encapsulation effort has proceeded as rapidly as possible however the current scheduled completion does not support room turnover schedules and therefore would impact fuel load. Completion of the encapsulation of shutdown raceway should be deferred until prior to the issuance of a license to exceed 5% power. The deferred work is located in area 2, the 13 kv Switchgear Room, and 27, the Control Structure Fan Room of the Control Structure and fire zones 45A, the CRD Hydraulic Equipment Area and 47A, a general access area, elev. 283-0 in the Reactor Enclosure.

RATIONALE FOR DEFERRAL:

The current status of completion of the 3 hour fire barrier for fire zones 2, 27, 45A and 47A is as follows:

Control Structure

El.	Fire Zone #	Support Encapsulation Installed	Support Encapsulation To Go	Raceway Encapsulation Ft Installed	Raceway Encapsulation Ft To Go
217	2	11	50	357	43
304	27	0	11	80	58

Reactor Enclosure

253	45A	10	56	250	174
283	47A	64	72	459	294

In each of the four fire areas listed above, the combustible loading is low, with equivalent severities not exceeding 14 minutes. Fire area 27 is provided with an automatic (pre-action) sprinkler system. Fire Areas 45A and 47A are provided with partial sprinkler systems. Each of the four fire zones listed above is provided with smoke detectors to provide early warning of incipient fires.

All other encapsulation of safety related raceway will be completed by fuel load.

SPRINKLER SYSTEMS AND HOSE REELS

DESCRIPTION OF DEFERRAL

Fire Areas 41 (RECW Equipment Area, Room 207) and 42 (Safeguard System Access Area, Room 200) Reactor Building El 201

PECo's structural steel survivability evaluation indicated the need for structural steel coating in these areas. Because of the probability of transient combustibles in these areas during maintenance operations and the low ceilings (15 feet), area sprinkler protection was considered to be the best means of overall fire protection. PECo, in response to the open SER item, committed to providing area sprinkler systems. This installation will be completed prior to the end of the first refueling outage.

Fire Area 47A - General Equipment Area Reactor Building El 283 Northeast Corner

During the NRC Fire Protection Audit, the request was made to extend the coverage of the existing preaction sprinkler system in the Northeast corner. This involves adding sprinkler heads and increasing piping sizes along the south perimeter of the existing system. This extension will be completed prior to the end of the first refueling outage.

Fire Area 28 - Control Structure El 332 and 350

In reviewing the hydraulic calculations for the standpipe that feeds the hose reels on elevation 332 and 350, it was determined that, with the preaction sprinkler on elevation 304 discharging simultaneously from all sprinkler heads, the FPER commitment of supplying 100 gpm at 65 psig to the hose reels could not be met. The hose reels will be moved to a standpipe in the area which has sufficient pressure. This modification will be completed prior to the end of the first refueling outage.

RATIONALE FOR DEFERRAL:

Fire Areas 41 and 42

The transient combustibles that are expected in these areas during maintenance work are the major reasons for providing protection in these areas. Transients are not expected in these areas during plant operation.

Fire Area 47A

A redesign of the existing sprinkler system will be required because the existing piping system cannot handle the increased flow requirements. Insufficent time is available to redesign, procure and install the material required by the design change.

Fire Area 28

In the event of a fire on one of these elevations, the hose reels will have pressures in excess of 65 psig provided that there is not a simultaneous fire on elevation 304. The sprinkler system on elevation 304 is a preaction system with closed heads covering an area of 5250 square feet. The equivalent fire severity in the area is 14 minutes. The combustibles are cable jacketing and a charcoal filter with its own water spray system. It is extremely unlikely that a fire will occur on this elevation which will actuate all the closed heads and severely reduce pressure at the upper elevations.

HEAT SHIELD AND SPILL PROTECTION - LOAD CENTERS AT EL 313 REACTOR BUILDING

DESCRIPTION OF DEFERRAL:

A recommendation was made during the NRC fire protection audit that protection of the redundant Load Centers on EL 313 in the reactor enclosure would be enhanced if protection to supplement the existing water curtain were provided.

Peco has therefore committed to install a concrete floor berm directly under the water curtain together with a radiant energy shield adjacent to each load center with sufficient overlap for heat and hose stream shielding. Installation of these additional provisions will be deferred until prior to the issuance of a license to exceed 5% power.

RATIONALE FOR DEFERRAL:

The installation of a berm and heat shields is an enhancement of the existing separation, water curtain, and fire detection in the area.

REPAIR OF EXISTING STRUCTURAL STEEL COATING

DESCRIPTION OF DEFERRAL:

One plant area (the Auxiliary Equipment Room) requires reapplication of structural steel coating in small areas where it was removed to accommodate new attachments. In this area, continued work is required for the addition of attachments to previously coated structural steel members. The total areas requiring reapplication are minimal, however, the activity is very labor intensive and will interfere with floor sealing activities and operational testing in the PGCC cabinets. This touch-up work will be deferred until prior to the issuance of a license to exceed 5% power.

RATIONALE FOR DEFERRAL:

The area is provided with area smoke detection.

ACCESS STAIRWAY FOR FIRE BRIGADE - TURBINE ENCLOSURE TO UNIT 2 STATIC INVERTER ROOM

DESCRIPTION OF DEFERRAL:

During the NRC fire protection audit it was identified that fire brigade access to the Unit 2 Cable Spreading Room would be improved by replacing the existing vertical ladder from the turbine enclosure to the Unit 2 Static Inverter Room with a stairway. PEco has committed to installing the stairway instead of the ladder. The installation of the stairway will be completed prior to the end of the first refueling outage.

RATIONALE FOR DEFERRAL

The deferral of the stairway does not significantly reduce the fire protection or the Unit 1 Cable spreading room for the following reasons:

1. There is a 3-hour fire barrier between the Units 1 and 2 Cable Spreading Room.

2. Smoke detection is provided for early warning in both Cable Spreading Rooms.

3. A wet pipe sprinkler system is provided for fire suppression in both Cable Spreading Rooms.

4. A backup manual carbon dioxide suppression system is provided in the Unit 1 Cable Spreading Room.

5. Significant quantities of cable have not been installed in the Unit 2 Cable Spreading Room thus minimizing the combustible loading in this area.

6. Fire hoses are provided for both Static Inverter Rooms for manual fire fighting.

7. Interim access will be provided by the ladder.

INTERNAL SEALS FOR CONDUITS THAT PENETRATE FIRE BARRIERS

Description of Deferral:

In areas of the plant that contain safety-related equipment, and also in nonsafety-related areas that have high combustible loadings, conduits that penetrate fire barriers are being sealed internally to prevent the passage of smoke and hot gases. Similar to the encapsulation program, the same 120 day long strike had a significant impact on work completion. Approximately 1,650 of the conduit seals remain to be installed, of a total of 10,000. Many of the seals are located in areas of high congestion or limited accessibility. Completion of the installation of these internal conduit seals would significantly affect the preoperational testing and fuel load schedules. Completion of the seal installation effort will be deferred until prior to the issuance of a license to exceed 5% power.

RATIONALE FOR DEFERRAL

The likelihood of a fire affecting redundant components of a safe shutdown method is very small. The conduit ranges in size up to six inches. In the event of a fire the cable will ignite and burn as long as the available oxygen will support combustion. The resulting problem is propagation of smoke and hot gases. Depending on the equipment on the opposite side of the barrier and on the ventilation system mode, the smoke and hot gases most likely will not have an immediate effect on equipment in that area. Substantial protection will be provided in the interim by the early warning fire detectors located throughout the safety-related areas.