

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4502

AUG 16 1984

JOHN S. KEMPER
VICE-PRESIDENT
ENGINEERING AND RESEARCH

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

Docket Nos: 50-352
50-353

SUBJECT: LIMERICK GENERATING STATION UNITS 1 AND 2
LIMERICK CONTROL ROOM DESIGN REVIEW

REFERENCES:

- (1) Letter from J. S. Kemper to A. Schwencer dated June 25, 1984
- (2) Teleconference between R. E. Martin, V. Moore, and L. Beltracchi of the NRC and T. J. Cabrey, E. F. Sproat, M. J. Leahy, W. W. Bowers, and H. D. Honan of PECO on July 20, 1984.
- (3) Supplement 1 to NUREG-0737 dated December 17, 1982.

FILE: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

In the reference (1) letter, PECO transmitted a copy of the Limerick Control Room Design Review Final Report. As a result of the staff's initial review of the Final Report, the reference (2) teleconference was held at the staff's request to provide additional information and justification on certain items. The following is the response to the concerns discussed in the teleconference.

TASK ANALYSIS:

The staff requested justification for deferral of the task analysis beyond fuel load. Deferral to the first refueling outage was initially requested in section 1.6.8 of the reference (1) Final Report. However, a re-evaluation of manpower and schedule requirements has enabled PECO to modify this deferral request and to advance the task analysis completion date to June 30, 1985.

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Justification for this deferral is based upon three points.

First, a detailed task analysis was performed on the Limerick unique Emergency Operating Procedures (TRIP procedures). This analysis was performed by reactor operators repeating a step-by-step walk-through of each procedure numerous times using the control room instrumentation. This technique identified all steps which could not be performed as written with the instrumentation in the control room. When these difficulties were identified, appropriate corrective actions were taken. These actions included the initiation of design changes to the control room panels, and/or the revision of the procedures to reflect the control room instrumentation that the operator would experience. In all cases these design changes and procedure revisions preserved the intent of the Emergency Procedure Guidelines.

An example of a design change that resulted from these procedural walk-throughs is the revision of the range of the suppression pool water level indication. When the walk-throughs were initially performed, the suppression pool water level indicators (LI-52-140A,B) had a range of 0 to 30 feet of water. While this range covered the normal operating level of the suppression pool, the TRIP procedures require a total range of 0 to 48 feet 7 inches of water. This indicator was re-ranged to 0 to 50 feet of water to provide the indication required by the procedure. Accomplishing this re-ranging required recalibration of the instrument loop and physical changes in the plant by relocating the suppression pool air space instrument tap.

Although the task analysis was complete in its scope, it was not completely documented. This is because it was performed before the current guidance contained in reference (3) was issued. Written records were created only for those TRIP procedure steps which were identified by the walk-throughs as requiring design changes or procedures modifications. No documents were initiated to indicate acceptability. If a step of the TRIP procedures was successfully walked-through, and no changes to the control room design or procedures were required, no further records were kept.

However, this detailed task analysis was sufficient to assure that the Limerick TRIP procedures, which were already approved by the staff's Procedures Branch, are workable from the control room. Indeed, the adequacy of the work already performed is precisely why deferral of a new task analysis to June 30, 1985 is acceptable.

Secondly, PECO is currently performing a complete Control Room Design Review (CRDR) for its two unit Peach Bottom Atomic Power Station (PBAPS). This PBAPS CRDR, which is being conducted in complete accordance with the guidance provided by reference (3) letter, will require many of the same resources needed to perform a fully documented task analysis for the Limerick Control Room. Hence, these two activities can not be performed concurrently. Because Peach Bottom is an operating plant, we have assigned a higher priority to its CRDR than we have assigned to repeating the Limerick task analysis. A fully documented task analysis will be performed at Limerick when the Peach Bottom CRDR has been completed.

Finally, the fourth revision of the Emergency Procedure Guidelines (EPGs) will be issued in the near future. Deferral of a fully documented task analysis to June 30, 1985, when the TRIP procedures based upon this revised set of EPGs should be available, would prevent the unnecessary duplication of effort that would result if it were to be performed before fuel load.

HIGH SAFETY SIGNIFICANT DISCREPANCIES:

In our review of human engineering discrepancies (HED's), the CRDR team identified four (4) priority 1 HED's, (high safety significant HED's). Two (2) of these were corrected (HED's I5-01 and SI5-03), while the Final Report transmitted by reference (1) letter requested that the correction of the other two (HED's A1-13 and SI4-04) be deferred to the first refueling outage.

PECO has re-evaluated the proposed implementation date of HED A1-13 "Annunciator Silence Button." As a result of this re-evaluation, a bell with a softer tone will be installed prior to fuel load. The bell will be of acceptable audible levels to allow for sufficient alarm response for the operators and also to allow for verbal communication between operators.

The second high priority HED for which deferral was requested (HED SI4-04) involves the testability of indicating status lights on the remote shutdown panel. Justification for not correcting this HED until after fuel load is based upon the adequacy of the start-up test program and the rigid security maintained over this panel. All five (5) lights of concern will be electrically and functionally tested during the Limerick start-up test program. During these tests, it will be verified that the electrical circuits function as designed and that the light bulbs are good. At the completion of the tests, the remote shutdown panel will be de-energized by transferring control back to the main control room panels. At this point, the circuits and bulbs will have been

verified as functional. This remote shutdown panel is maintained in a locked room with access controlled by operations shift supervision. Additionally, the access doors to the remote shutdown panel room are monitored by the plant security system. The actual transfer of control and control power to the remote shutdown panel from the control room is annunciated in the control room when anyone of the transfer switches is in the emergency position. The remote shutdown panel indicating status lights will have a very high probability of working properly if an emergency occurred that required evacuation of the control room. Therefore, it is unnecessary to add additional testing capability to this very reliable system prior to the first refueling outage.

FINAL VALIDATION:

As stated in the Final Report transmitted by reference (1) letter, a final validation will be performed prior to fuel load. This validation will bring together all aspects of the Control Room Design Review by doing a detailed walk-through of the TRIP procedures on the enhanced control room mockup. These walk-throughs will be observed the CRDR team. Video and audio recordings will be made to further assist in the review process.

The results of this final validation will be submitted in an addendum report to the NRC staff on or before October 31, 1984. The final validation is currently scheduled for the week of August 20, 1984.

Sincerely,

Joe Gallagher
for
J. Kanjan

TJC:sjb
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CC: See attached Service List

cc: Judge Lawrence Brenner
Judge Richard F. Cole
Troy B. Conner, Jr., Esq.
Ann P. Hodgdon, Esq.
Mr. Frank R. Romano
Mr. Robert L. Anthony
Charles W. Elliot, Esq.
Zori G. Ferkin, Esq.
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Management Agency
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David Wersan, Esq.
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