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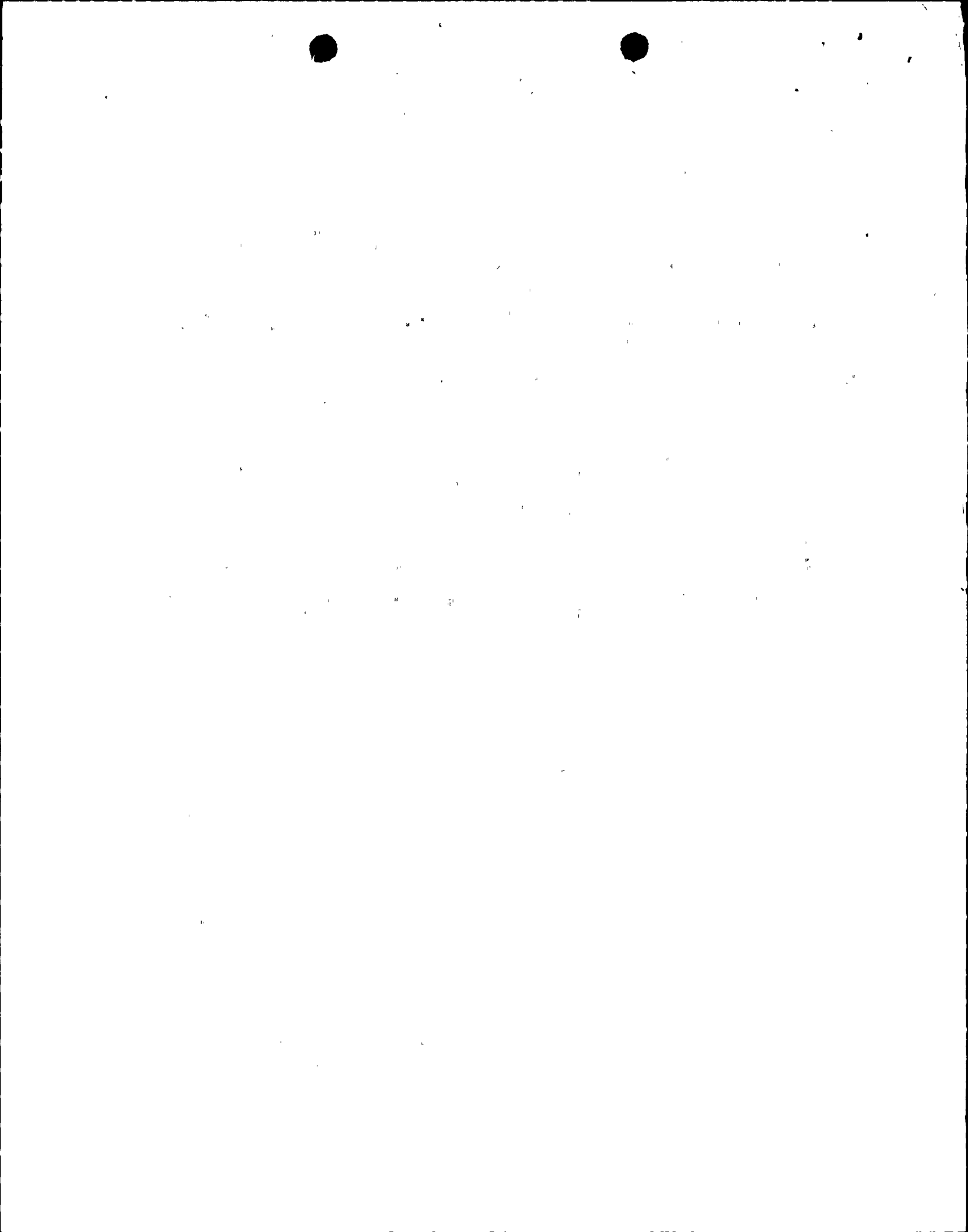
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 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
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 KEISER, H. W. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 BUTLER, W. R. Project Directorate I-2

SUBJECT: Application for Amends 55 & 108 to Licenses NPF-22 & NPF-14, respectively. Amends changing Tech Specs to increase load profiles for batteries 2D612 & 2D622 & decrease load profiles for batteries 2D632 & 2D642.

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JAN 08 1988

Director of Nuclear Reactor Regulation
Attn.: Dr. W. R. Butler, Project Director
Project Directorate I-2
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 108 TO NPF-14 AND
PROPOSED AMENDMENT NO. 55 to NPF-22
125V D.C. LOAD PROFILES
PLA-2965 FILES A17-2, R41-2

Dockets Nos. 50-387
and 50-388

References: PLA-2920, H.W. Keiser to USNRC, "Revision 1 to Proposed Amendment No. 98 to NPF-14 and Revision 1 to Proposed Amendment No. 51 to NPF-22: 125V D.C. Load Profile", dated September 23, 1987.

Dear Dr. Butler:

The purpose of this letter is to transmit proposed changes to the Susquehanna SES Unit 1 and Unit 2 Technical Specifications due to revisions to the load profiles for 125V D.C. battery banks 2D612, 2D622, 2D632 and 2D642. An additional administrative change is proposed in the form of deletion of material in the Susquehanna SES Unit 2 Technical Specifications that represents redundant information.

BACKGROUND

We are requesting Specification 4.8.2.1.d.2.b be modified to increase the load profiles for batteries 2D612 and 2D622 and decrease the load profiles for batteries 2D632 and 2D642. These changes are necessary to accommodate the installation of ATWS Alternate Rod Injection solenoid valves, and to recognize increased loads associated with emergency lighting for batteries 2D612 and 2D622 and decreased loads associated with emergency lighting for batteries 2D632 and 2D642. In addition, we are requesting deletion of page 3/4 8-14 in the Unit 2 Technical Specification as it represents redundant information presented on page 3/4 8-13a.

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DESCRIPTION OF CHANGE

PP&L is proposing that Specification 4.8.2.1.d.2.b be revised to reflect the new load profiles as indicated on the attached marked-up pages and that page 3/4 8-14 be deleted from the Unit 2 Technical Specification.

SAFETY ANALYSIS

The purpose of the 125V D.C. system is to provide a reliable, continuous source of power to pump breaker control power, isolation valves, and annunciators during normal plant operation upon loss of normal AC supply, for a time long enough to restore the AC buses to service.

The staff concluded in the Susquehanna Safety Evaluation Report (NUREG-0776) that the 125V D.C. system met all necessary regulatory criteria. With respect to the proposed change, the pertinent criterion is GDC 17, "Electric Power Systems," which states in part:

"The safety function . . . shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity is maintained in the event of postulated accidents."

Per IEEE-485, actual battery capacity is determined by accounting for the effects of aging and environment over the battery lifetime. This margin allows replacement of the battery when its capacity has decreased to 80% of nameplate, which is well before connected loads could be jeopardized. Since (1) the batteries have exceeded anticipated terminal voltage during service tests in January and November, 1984 and September, 1986 and (2) the new profile does not impact the required capacity margin, the proposed Technical Specification change does not affect the staff's original finding that the requirements of GDC-17 are met by the design of the 125V D.C. system at Susquehanna SES.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed change does not:

- (1) Involve an increase in the probability or consequences of an accident previously evaluated. FSAR Subsection 8.3.2.1.1.4 states that the station batteries have sufficient capacity without the charger to independently supply the required loads for four hours. The Technical Specifications require that the batteries be surveilled to dummy loads which are greater than the design loads. An assessment has been performed by our engineering department which verifies that the batteries have adequate capacity to power the actual loads on the 125V DC system. The new load profiles contained in the proposed amendment to the Technical Specifications envelop the actual loads.

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- (2) Create the possibility of a new or different kind of accident from any previously evaluated. As stated in Part (1), the batteries have sufficient capacity to power the actual battery loads thus enabling them to perform their intended function. Any postulated accident resulting from this change is bounded by previous analysis.
- (3) Involve a reduction in the margin of safety. IEEE 485 requires that the related battery capacity include a margin for aging of the battery and the temperature of the batteries' environment at the beginning of battery life. This margin allows replacement of the battery when its capacity is decreased to 80% of its rated capacity (100% design load). Our previous letter PLA-2920 in support of Unit 1 ARI modifications referenced a correction for a temperature of 65°F of the battery electrolyte in order to maintain at least a 25% margin in accordance with IEEE-485. Our engineering department has reassessed the ability of the batteries to power the actual loads of the 125V D.C. system at a battery electrolyte temperature of 60°F as currently reflected in Technical Specifications. If electrolyte temperature actually falls to 60°F, capacity derating of the batteries would not significantly impact the 25% factor used for aging. Also, based upon the vendor's aging curves, the age of the batteries and past service test results it is not expected that the batteries will significantly deteriorate during the next 3-4 years. With the increased battery loads and the installation of the ATWS ARI System it can be concluded that the overall margin of safety of the plant is not diminished.

We request these amendments be approved prior to the Unit 2 Refueling and Inspection Outage scheduled to begin on 3/5/88, and condition it to become effective prior to startup following the outage. Startup is currently scheduled to occur 5/3/88; we will keep you informed of any schedule changes.

If you have any questions regarding the above proposal please direct them to J. B. Wesner at (215) 770-7906. Pursuant to 10CFR170, the appropriate fee is enclosed.

Very truly yours,


H.W. Keiser
Vice President-Nuclear Operations

Attachment(s)

cc: NRC Document Control Desk (original)
NRC Region I
Mr. J. Stair, NRC Resident Inspector
Mr. M. C. Thadani, NRC Project Manager