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RECIP.NAME RECIPIENT AFFILIATION
GRIER,B.H. Region 1, Philadelphia, Office of the Director (81/03/01)

SUBJECT: Interim deficiency rept re failure of design to provide control room habitability,initially reported on 810420.Study is underway to determine mods required to correct deficiency.Addl info will be provided by 810801.

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NORMAN W. CURTIS
Vice President-Engineering & Construction-Nuclear
770-5381

June 5, 1981

Mr. Boyce H. Grier
Director, Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION
INTERIM REPORT OF A POTENTIALLY REPORTABLE
DEFICIENCY INVOLVING CONTROL ROOM HABITABILITY
ERs 100450/100508 FILE 821-10
PLA-830

Dear Mr. Grier:

This letter serves to provide the Commission with an interim report of a potentially reportable deficiency regarding the failure of SSES design, as approved and released for construction, to provide control room/habitability as described in the Susquehanna FSAR. The condition was originally reported by telephone to NRC Region I Reactor Inspector, Mr. L. Narrow, by Mr. A. R. Sabol of PP&L on April 20, 1981. Mr. Narrow was advised that the condition was considered potentially reportable under the provisions of 10 CFR 50.55(e).

PP&L is currently investigating the condition and a final determination on the significance of the item will be made based upon its impact on control room habitability.

The Susquehanna FSAR provides for a dual pressure differential envelope concept to ensure habitability inside the control room and the control structure. This dual envelope concept requires that a positive pressure differential be maintained both in the control structure air space relative to the outside atmosphere in the control room air space relative to the remainder of the control structure and the leakage from the control structure envelope into control room envelope be minimal.

As designed, the control room HVAC units are located outside the control room envelope and within the secondary control structure envelope. Because of the bolted construction of these HVAC units and because their return duct system may be subject to a negative pressure during operation, it is suspected that the integrity of the boundary between the control structure and control room envelopes may be compromised.

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The analysis for control room habitability in the Susquehanna FSAR assumes a maximum leakage rate of 10 cfm of unfiltered air from the secondary control structure envelope to the control room. Due to the design of the control room HVAC system as discussed above, it is suspected that a higher leakage rate will occur which could adversely affect habitability of the control room during a design basis accident. Thus, the condition is considered potentially reportable under 10 CFR 50.55(e).

PP&L is studying the described condition and will determine what modifications, if any, will be required to correct any inconsistencies between current design and FSAR requirements.

We expect to provide additional information on this condition in a subsequent report prior to August 1, 1981.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

FLW:sab

cc: Mr. Victor Stello (15)
Director-Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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Washington, D.C. 20555

Mr. Gary Rhoads
U. S. Nuclear Regulatory Commission
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Shickshinny, PA 18655

PP&L

A. R. Sabol N-4

SUSQUEHANNA STEAM ELECTRIC STATION
REPORTABILITY TO NRC REGARDING
CHANGES IN THE DESIGN OF
CONTROL ROOM HABITABILITY SYSTEMS
ERs 100450/100508 FILES 821-10
840-4
PLI-13758 160

Reference: PLI 13455 Dated 5/20/81

Above referenced PLI provided a interim report regarding potential reportability, under 10 CFR 50.55e, of the design changes in the control room habitability system. Background information regarding the deficiencies which caused to the design changes is provided in the referenced PLI. Following paragraphs provide the final evaluation on this subject:

Based on latest NRC regulations, a review of SSES control room habitability system was performed by Bechtel including recalculation of control room Technical Support Center (TSC) and Operations Support Center (OSC) radiation doses. During the review, it was found that 100 cfm unfiltered infiltration of outside air assumed for the control structure is high and this can be reduced to 10 cfm per SRP 6.4.Through reanalysis using 10 cfm as stated above, it was determined that by maintaining a single envelope of control structure pressurized to +1/8" wg,the habitability inside the control structure including control room, the TSC and the OSC can be provided in accordance with SRP 6.4 and thus meeting requirements of GDC 19.

In the revised design,cross flow between the control room and the control structure has no significance since both are in the same envelope. This leads us to believe that if the deficiency as stated in reference 1, were it to have remained uncorrected, it would not have affected adversely the safety of operations of the Nuclear power plant, at any time during the life of the plant. In view of this NPE believes this deficiency to be not reportable under 10 CFR 50.55 (e).

Proposed Corrective Action:
FSAR sections for control room habitability systems will be revised to incorporate single envelope concept and the assumption of 10 cfm for unfiltered infiltration of outside air.

We believe this completes NPE response to PLI 13338 and no further action is required by NPE.

Thank you,

A. M. Male
Assistant Manager-Nuclear Plant Engineering

SDP/cah

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