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LTR. RE. THEIR 9/30/76 LTRS...
RESPONSE TO REFERENCED LTRS. PERTAINING TO THE ANTICIPATED TRANSIENTS WITHOUT SCRAM.....

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(3 PAGES)

DISTRIBUTION FOR INFORMATION CONCERNING ATWS (PRIOR TO ISSUANCE OF OL)

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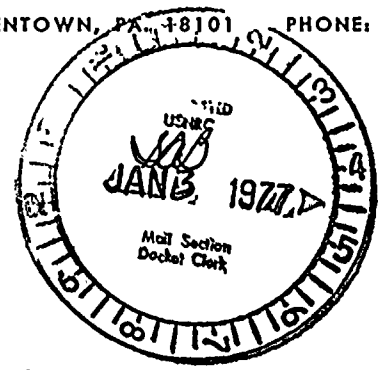

DEC 3 0 1976

Mr. Roger S. Boyd, Director
Division of Project Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commissions
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
DOCKET NOS. 50-387 AND 50-388
ANTICIPATED TRANSIENTS WITHOUT SCRAM
ER 100450 FILE 840-2
PLA-152

Dear Mr. Boyd:

References:
1. Letter R. Boyd (NRC) to N. Curtis (PP&L) requesting information on ATWS dated January 24, 1976.
2. Letter R. Heineman (NRC) to I. F. Stuart (GE). Same subject dated April 7, 1976.
3. Letter, E. Hughes (GE) to D. F. Ross (NRC) transmitting (GE) ATWS Report, dated July 2, 1976.
4. Letter, E. Hughes (GE) to D. F. Ross (NRC) transmitting Appendices A and B to GE ATWS Report for BWR4's and 5's dated Sept. 30, 1976
5. Letter E. Hughes (GE) to D. F. Ross (NRC) transmitting GE ATWS Reliability Report. dated September 30, 1976.

Pennsylvania Power & Light Company (PP&L) received a letter (Ref:1) requesting that certain information be submitted to the NRC by December 30, 1976. This information was to address Anticipated Transients Without Scram (ATWS) for Susquehanna Steam Electric Station including analysis and justification of the General Electric analysis model and identification of design changes needed to assure that the limits specified in WASH-1270 will not be violated following an ATWS event. A related letter to General Electric (Ref. 2) requested information regarding the generic activity undertaken by General Electric on behalf of all BWR Category B plant owners for the purpose of developing an acceptable solution to the ATWS issue. In response to this request, General Electric has provided "for information" a generic report which included a response to out-

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standing questions. Appendices A and B to this report (Reference 4) provided information applicable to the BWR 4 and 5 which is applicable to SSES. PP&L believes, however, that the final resolution of the ATWS issue must include consideration of the GE Scram System Reliability Analysis (Ref. 5)

We have therefore prepared a dual response to the ATWS issue. The first part consists of a reliability analysis which was submitted on a generic basis by General Electric on September 30, 1976 (Ref. 5). The second part provides information in response to the NRC's Status Report on ATWS for General Electric Reactors.

PP&L has been involved in discussions of ATWS events with General Electric, the NRC, and industry groups, and PP&L concurs with the NRC Staff in its desire to resolve the ATWS issue as soon as practical. It must be recognized, however, that the effort to achieve resolution must not be allowed to result in an unwarranted impact on plant design without a commensurate benefit to safety.

The NRC Status Report states that an overall unreliability safety objective of about 10^{-7}/year, for normal and backup scram systems, must be achievable. The December 9, 1975 NRC Status Report, however, assumes that scram system unreliability does not meet this goal, and that mitigating measures need to be incorporated for resolution of the ATWS issue. We contend that the Status Report represents an extrapolation of the explicit instructions of WASH 1270 and is not consistent with the criteria documented in NEDO 20626.

PP&L believes that the ATWS issue can be resolved by analytical methods which demonstrate adequate reliability of the BWR Scram System and obviate the need for any mitigating measures. General Electric has undertaken an exhaustive reliability program to demonstrate the actual reliability of the BWR Reactor Protecton System and Control Rod Drives. GE's report on reliability was submitted to the NRC by General Electric on September 30, 1976. PP&L strongly urges an expeditious NRC staff review of this document so that the potential plant modifications can be resolved with the NRC staff and ATWS can be eliminated as an issue. In addition, the Electric Power Research Institute (EPRI) has conducted an extensive reevaluation of WASH 1270 methodology and data base and, as such, we believe that it should be carefully considered by the NRC staff and its reliability consultants.

In response to the NRC Status Report, a generic report, "for information purposes only", was submitted by General Electric in behalf of PP&L (References 3 and 4) defining the impact of the NRC Status Report. That document reveals that the impact of the Status Report resolution would be quite severe and does not yield a proper offsetting benefit to overall plant safety. Our order of magnitude estimate of the cost of ATWS mitigation is in excess of $20 million per unit, exclusive of the cost impact of the resulting delay in fuel loading. A minimum delay of one year would be caused adding about $70 million in escalation and interest charges. Costs of replacement power would be substantially more than this.

The reliability studies submitted to the NRC show that the unreliability of the BWR Scram system is less than 10^{-7}. Since this level of unreliability was established as adequate by WASH 1270, we cannot justify an expenditure of over 40 million dollars to further improve reliability.

PP&L urges that the status report solution should not be required to be implemented. PP&L is committed to resolution of the ATWS concern by showing that adequate reliability can be achieved utilizing the improved Scram system as described in GE's BWR Scram Reliability Analysis. The cost of these improvements is expected to be less than $500,000 per unit. PP&L will implement the necessary modifications upon NRC acceptance of this solution.

Very truly yours,

N. W. Curtis

WEB:JLI

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