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 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv      05000388  
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 RECIP. NAME      RECIPIENT AFFILIATION  
 MILLER, C.L.      Project Directorate I-2

*see lpt.*

SUBJECT: Forwards rev 8 to ISI-T-100.0, "ISI Program Plan for Pump & Valve Operational Testing" & Rev 5 to ISI-T-200.0, "ISI Program Plan for Pump & Valve Operational Testing."

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Robert G. Byram  
Senior Vice President-Nuclear  
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JUN 23 1993

Director of Nuclear Reactor Regulation  
Attention: Mr. C.L. Miller, Project Director  
Project Directorate I-2  
Division of Reactor Projects  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

**SUSQUEHANNA STEAM ELECTRIC STATION  
REVISIONS 8 AND 5 TO THE INSERVICE  
INSPECTION PROGRAM PLAN FOR PUMP  
AND VALVE OPERATIONAL TESTING  
PLA-3986 FILE R41-2**

Docket Nos. 50-387  
and 50-388

Dear Mr. Miller:

The attached revision to the Inservice Inspection Program Plan for Pump and Valve Operational Testing contains Pennsylvania Power & Light Company's responses to the NRC staff's letter dated June 23, 1992 as clarified in a telephone conversation in August 1992. These revisions also contain additional corrections and additions. The following is a summary of the revisions made in response to the staff's letter.

SER ANOMALY	RESPONSE
1	Expanded the citation of ASME PTC 25.3 for setpoint testing of safety valves in the introduction.
2	Added Relief Request 33 for excess flow check valves.
3	Added Relief Request 68 to establish definition of Cold Shutdown Testing Frequency for valves.
4	Added Relief Request 67 for relief from requirements to increase leak test frequency of PIV's.
5	Revised Relief Request 49 for relief from IWP-3100 and IWP-3500(b) pump bearing temperature measurements and times to reflect changed test method.
6	Expanded Relief Request 10 to explain/comment to our intention of monitoring ADS MSRV lift time/distance by Wyle Lab test reports.

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SER ANOMALY	RESPONSE
7	Revised Relief Request 11 to clarify that the MSIV tolerance of 2 seconds exists between the 3 and 5 second limits.
8	Revised Relief Request 20 to add that reverse direction LLRT's are approved by the FSAR and Appendix J.
9	Revised Relief Request 30 to add the actions for confirming operability of valves tested at the Cold Shutdown Test Frequency.
10	Revised Relief Request 38 to add the 2 second time limit for all rapid acting valves.
11	Revised Relief Request 40 to add testing of Control Structure Chilled Water valves. Also revised Relief Request 50 to add testing of Control Structure Chilled Water pumps.
12	Revised Relief Requests 27, 51, 64 and 65 to describe and propose optional use of Liberty Technology "QUICK CHECK" system for periodic diagnostic testing of check valves.
13	Revised Relief Request 53 to improve clarity and state that HPCI turbine stop valves are skid-mounted.
14	Withdrew and deleted Relief Request 59 since Dx unit motor operated valves and check valves are tested quarterly.
15	Revised Relief Request 60 to add stronger justification for refueling test frequency of MSIV accumulator check valves.
16	Revised Relief Request 61 to provide additional justification for not testing 8 CRD air operated valves on a monthly frequency.
17	Revised Relief Request 63 to seek relief from IWP-3500(a) for the 5 minute wait period for HPCI pump tests.
18	Revised Relief Request 66 to provide additional justification for refueling test frequency for 4 containment instrument gas check valves.
19	Revised the appropriate relief requests to note that they are cold shutdown test justification and not relief requests. The relief requests which are to be noted are 1, 3, 4, 5, 6, 16, 23, 26, 29, 37, 39 and 45.

The following is a summary of the additional changes made to the plan:

- |   |
|---|
| • Added remarks to listings for HV-x12F074 A/B on pages 1VT-8 and 2VT-6.                        |
| • Deleted 4 RHRSW crosstie check valves (x12F078 A/B) from pages 1VT-9 and 2VT-7.               |
| • Restored citation of Relief Request 20 to listings for FV-x49F019 on pages 1VT-37 and 2VT-32. |
| • Deleted LLRT remark from listings for SV-x5736 A/B on pages 1VT-64 and 2VT-59.                |



• Deleted LLRT remark from listings for SV-x5740 A/B on pages 1VT-65 and 2VT-60.
• Deleted LLRT remark from listings for SV-x5750 A/B on pages 1VT-66 and 2VT-61.
• Deleted LLRT remark from listings for SV-x5776 A/B on pages 1VT-68 and 2VT-63.
• Deleted LLRT remark from listings for SV-x5780 A/B on pages 1VT-69 and 2VT-64.
• Added citation of Relief Request 38 and Remarks to listings for TIP valves on 1VT-79 and 2VT-70. . .
• Corrected check valves x53071 A/B Code Class to Class 3 in Relief Request 13.
• Corrected Fuel Oil Transfer pumps and check valves Code Class to Class 3 in Relief Request 47. Also clarified that pump OP 514E is not a submersible pump. . .
• Clarified that the ESW check valves in Relief Request 64 are not testing during refueling outages.
• Clarified that the Fuel Pool Cooling and Cleanup check valve in Relief Request 65 are not normally tested during refueling outages.
• Relief Requests 56 and 62 have been deleted.

The staff's letter also requested that PP&L provide a short write up on the process used in developing the IST program. This write-up is provided in Attachment 1.

If you have any questions or comments, please contact Mr. C.T. Coddington at (215) 774-7915.

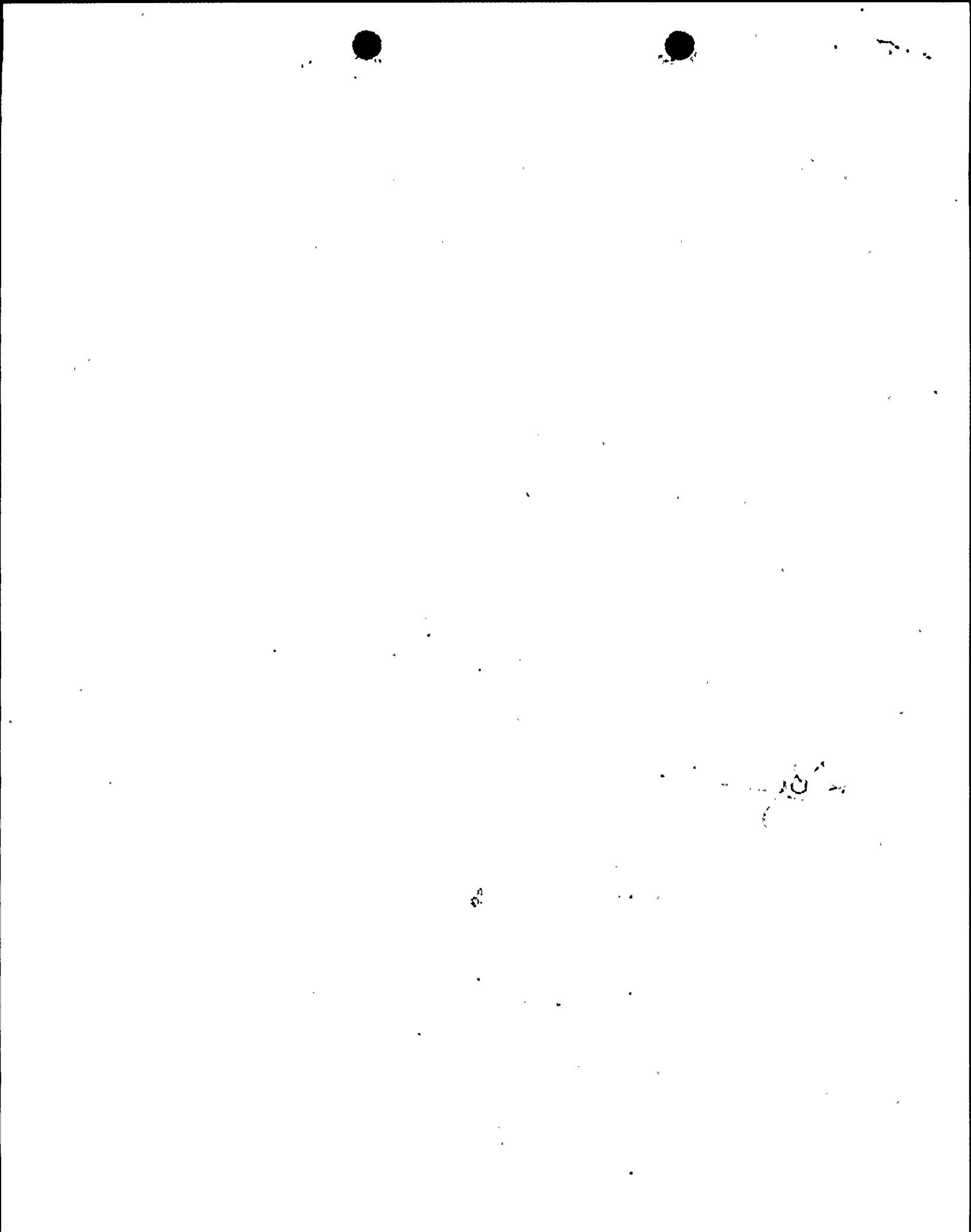
Very truly yours,



R. G. Byram

Attachment

cc: ~~NRC Document Control Desk (original)~~  
NRC Region I  
Mr. G. S. Barber, NRC Sr. Resident Inspector - SSES  
Mr. R. J. Clark, NRC Sr. Project Manager - Rockville



**PROCESS FOR DEVELOPMENT OF IST PROGRAM****1) Details of documents used for IST Program development:**

- NRC NUREG - 0800
- ASME Code Section XI, Subsections IWA, IWP, and IWV
- Susquehanna SES Technical Specifications
- Susquehanna SES FSAR
- Susquehanna SES P&ID Drawings (for various plant systems)
- ISI-T-102, Basis Document for ISI Classification Boundaries
- NDAP-QA-0722, Surveillance Testing Program
- NDAP-QA-0412, Local Leakage Rate Test Program

**2) Method of determining if a component requires inservice testing:**

Those plant systems derived from NUREG 0800 and identified in PP&L Document ISI-T-102, Basis Document for ISI Classification Boundaries, as fluid systems important to safety for BWR plants are designated as candidate systems for component testing by the IST Program.

The plant P&ID drawing(s) establishing the configuration of each designated plant system are researched to identify the pumps and valves in each system that could be required to perform specific function(s) in mitigating accident consequences or shutting down the reactor. The FSAR descriptions of those pumps and valves and of the plant design basis accidents are reviewed to establish any role that a given pump or valve may have to play in a reactor shutdown or accident.

The pumps and valves of each system selected for inclusion in the IST Program are reviewed by the cognizant system engineer for completeness. Compilation of the selected pumps and valves into the listings of the IST Program Plan document then proceeds.

**3) Basis for the testing required for each IST Program pump and valve:**

ASME Code Section XI Article IWP-3000 (Inservice Test Procedures, for pumps) and Article IWV-3000 (Test Requirements, for valves) are reviewed to determine the requirements for periodic testing of each different type of pump and of each different type of valve:

- Per paragraph IWP-3000 pumps require inservice testing, consisting of measurement of six inservice test quantities at test conditions at quarterly frequency.



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- Per paragraph IWV-3400 power operated valves require exercise testing and measurement of stroke time at quarterly frequency or, if not practical, then at unit cold shutdown frequency.
- Per paragraph IWV-3420 any valve, for which seat leakage is limited to a specific maximum amount in the closed position in fulfillment of this function, requires leakage tests at a 2 year frequency.
- Per paragraph IWV-3510 safety valves and relief valves require testing of pressure set points on an alternating basis, so that each valve is tested once each 5 year period.
- Per paragraph IWV-3520 check valves require exercise testing at quarterly frequency or, if not practical quarterly, then at unit cold shutdown frequency.
- Per paragraph IWV-3600 explosively actuated valves required actuation testing on an alternating basis, so that each valve is tested once each 10 year period.

The practicality of performing these required tests for each pump and each valve is evaluated and, if system configuration of other concerns preclude performing a test as specified, then a Relief Request is submitted to address the subject.

4) Basis for categorizing valves:

ASME Code Section XI Article IWV-2000 (Definitions) is reviewed to determine category(s) for each valve, according to its type and specific function:

- Per paragraph IWV-2200 (a) any valve, for which seat leakage in the closed position is limited to a specific maximum amount for fulfillment of its specific function (by plant Technical Specification or FSAR), is identified as a Category A valve.
- Per paragraph IWV-2200 (b) any valve, for which seat leakage in the closed position is inconsequential to fulfillment of its specific function (unlimited by plant Technical Specification or FSAR), is identified as a Category B valve. (Category B is interpreted as being equivalent to, rather than additional to Category C, in the context of their separate treatments by paragraphs IWV-3400 and IWV-3500).
- Per paragraph IWV-2200 (c) any valve that is self-actuating in response to some system characteristic, such as pressure (for a relief valve) or flow direction (for a check valve), is identified as a Category C valve.
- Per paragraph IWV-2000 (d) any valve that is actuated by an energy source capable of only one operation, such as a rupture disk or an explosive-actuated valve is identified as a Category D valve.

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5) Method used for maintaining the IST Program current with design modification:

The responsible engineer for the design of each plant modification is required by his Design Checklist to consider (and communicate with the IST Engineer as to) whether a given modification adds, changes, or removes any pump or valve already in or required to be added to the IST Program.

After the modification design process identifies a pump or valve modification that will change the IST Program status of a component, the IST Engineer is responsible to ensure that the IST Program is updated to correctly reflect the new status of the modified pump or valve and that the appropriate surveillance test procedures or equivalent work documents are revised to properly implement the testing changes for the modified pump or valve.

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