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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9402250211 DOC. DATE: 94/02/17 NOTARIZED: YES DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylva 05000387
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388
 AUTH. NAME AUTHOR AFFILIATION
 STANLEY, H.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 MILLER, C.L. Project Directorate I-2

SUBJECT: Provides rept confirming completion & describing mod
 implemented, as stated in NRC Bulletin 93-003, "Resolution of
 Issues Related to Reactor Vessel Water Level Instrumentation
 in BWRs."

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 TITLE: Bulletin 93-03: BWR Reactor Pressure Vessel (BPV) Water Level Instrum

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Pennsylvania Power & Light Company

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Harold G. Stanley
Vice President-Nuclear Operations
717/542-3220

FEB 17 1994

Director of Nuclear Reactor Regulation
Attn.: 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
REACTOR VESSEL WATER LEVEL
INSTRUMENTATION, BACKFILL SYSTEM
PLA-4078**

FILES A17-2/R41-2

Docket Nos. 50-387
and 50-388

Reference: PLA-4006, R. G. Byram to USNRC, "Response to NRC Bulletin 93-03, 'Resolution of Issues Related to Reactor Vessel Water Level Instrumentation in BWR's'", dated 7/29/93.

Dear Mr. Miller:

As stated in NRC Bulletin 93-03, "Resolution of Issues Related to Reactor Vessel Water Level Instrumentation in BWR's," each licensee is requested to implement hardware modifications necessary to ensure the level instrumentation system design is of high functional reliability for long term operation. Upon completion of this hardware modification, a report confirming completion and describing the modification implemented is required within 30 days. The purpose of this letter is to provide that report.

PP&L has installed the backfill system modifications on both Unit 1 & 2, to purge the non-condensable gases from the reference legs, and prohibit these gases from entering the reference legs during plant operation. These modifications installed tubing from the high pressure CRD charging header to the instrument racks, and provides necessary valves, flow indication, etc. for backfill system control.

FUNCTIONAL DESCRIPTION

These backfill systems provide a continuous flow of water into the reference legs which are connected to both the upper and lower condensing chambers. This flow will continuously sweep the reference leg pushing water potentially containing non-condensable gas back into the reactor vessel thus prohibiting the buildup of non-condensable gases in the reference leg fluid. Flow indication has been provided locally to allow operator verification that flow is within acceptable limits during normal shift rounds.

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The source of water for the system is the high-pressure, reactor grade water with ≤ 150 ppm total dissolved non-condensable gases from the CRD charging header. A filter has been provided on the CRD supply to minimize the effect of clogging of the meter valve used to control flow.

The system has adequate pressure and flow capability to keep the reference leg filled in the event that the condensing pot is completely filled with non-condensable gases and condensation in the pot stops. The flow velocity is capable of overcoming any thermal convection cells that may be produced by localized hot/cold spots on the reference leg piping caused by heat transfer from/to adjacent piping, equipment or HVAC.

DETAILED PHYSICAL DESCRIPTION (Figure 1 attached)


Backfill system supply has been obtained from a new tap to be installed on the main CRD header located at the Master Control Station downstream of the Drive Water Filters. Two isolation valves in series have been installed to isolate the 1500 lb. supply.

3/8" stainless steel tubing has been installed from the CRD tap to the new backfill injection racks located in the general vicinity of existing local instrument racks. The tube routing has avoided the introduction of high points in the backfill system, however, a vent valve has been installed at the high points created where the backfill connection is made to the reference leg tubing.

The new injection rack contains the flow indicator, system isolation, fill meter valves, and filters necessary to provide control of the backfill system flow. Manual isolation valves, which if closed could cause a number of initiations and isolations of plant equipment, have been disabled in the open position by design to preclude the possibility of pressurization of the reference leg to CRD pressure.

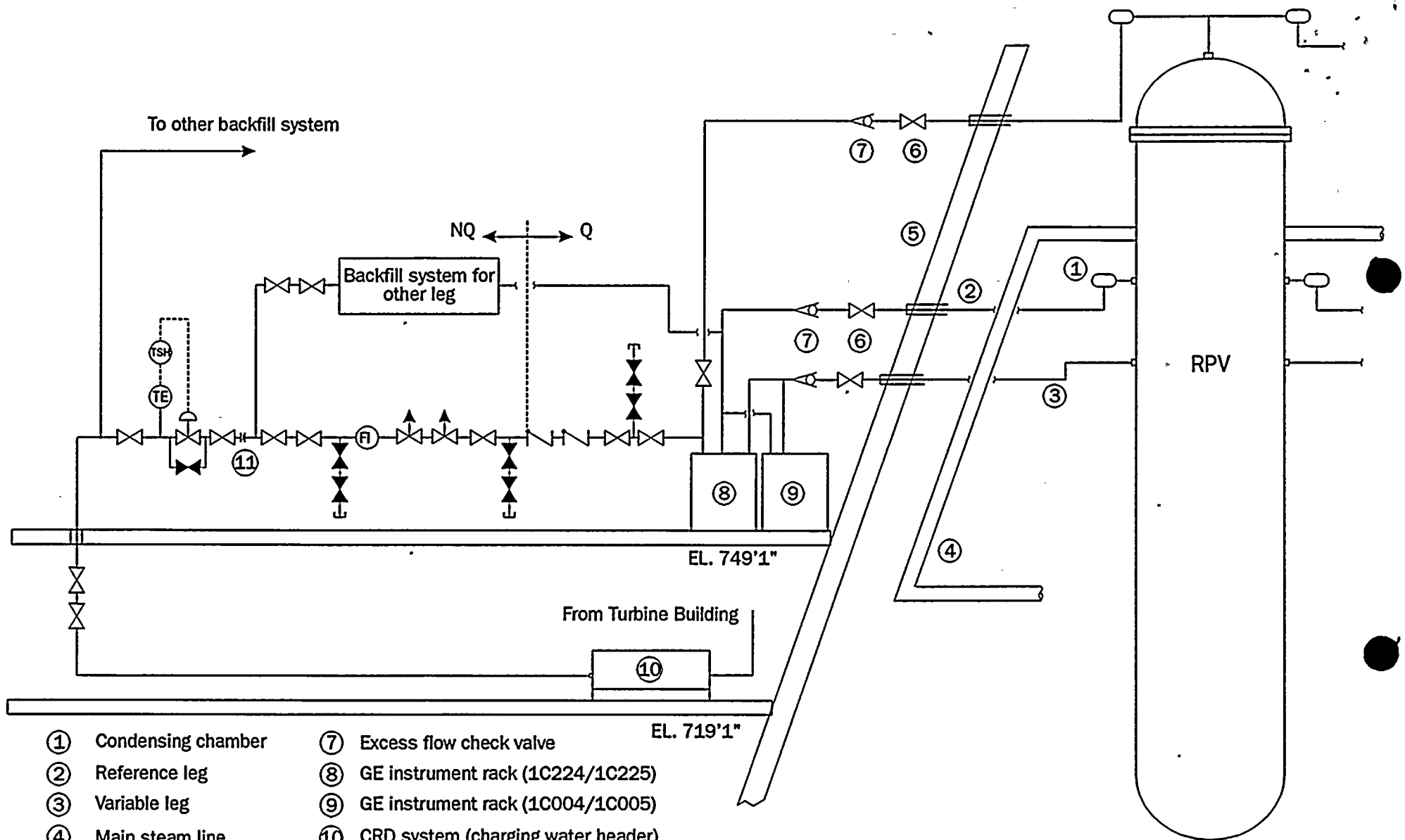
PP&L is continuing its investigation into an alternate, passive modification (vent) and will provide details of modification description and testing under subsequent correspondence. Questions regarding this information should be directed to Mr. A. K. Maron at (610) 774-7852.

Very truly yours,

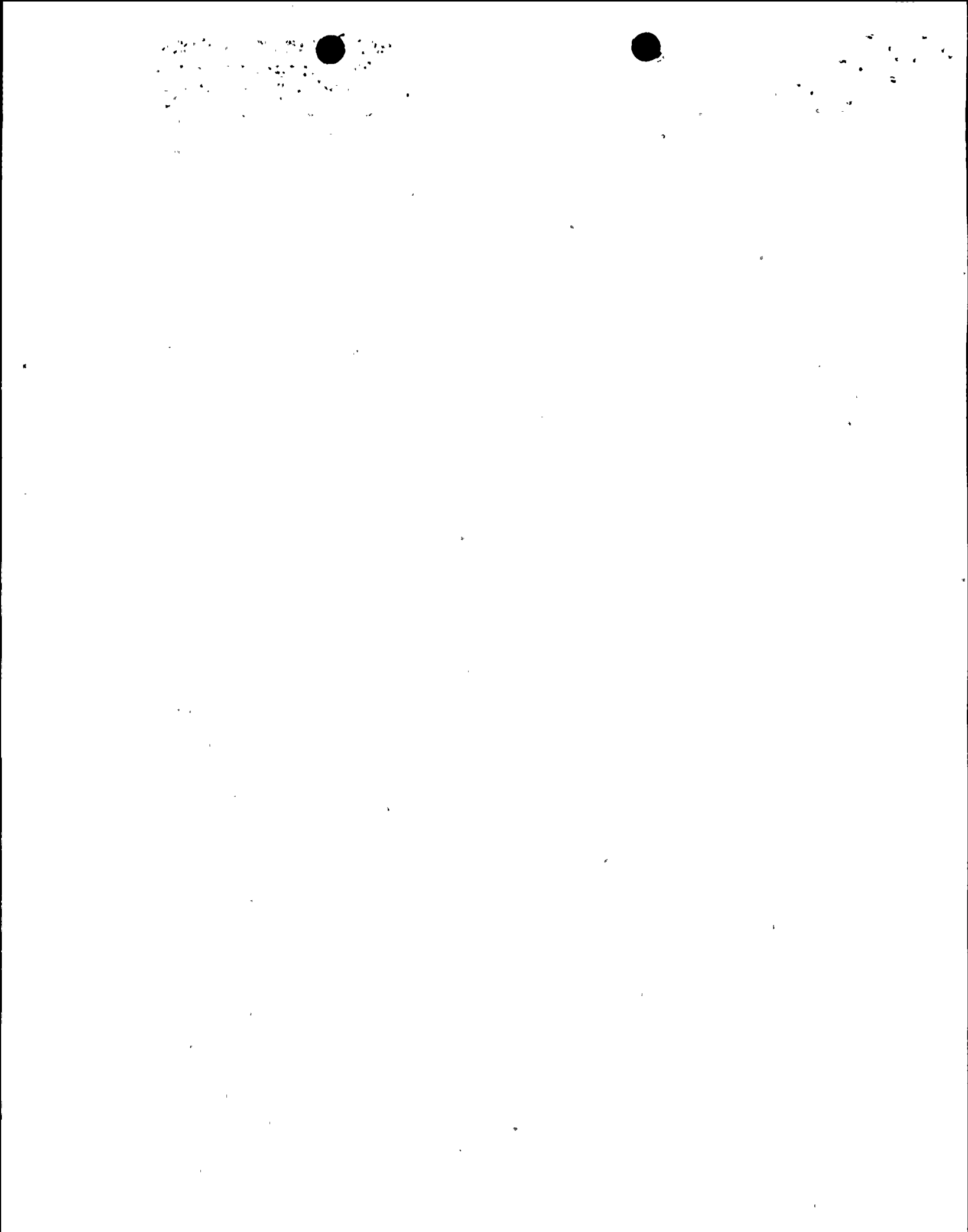

H. G. Stanley

Attachment

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector
Mr. R. J. Clark, NRC Sr. Project Manager
Mr. W. P. Dornsife, Pa Dept. of Environmental Resources




- | | |
|-----------------------|--------------------------------------|
| ① Condensing chamber | ⑦ Excess flow check valve |
| ② Reference leg | ⑧ GE instrument rack (1C224/1C225) |
| ③ Variable leg | ⑨ GE instrument rack (1C004/1C005) |
| ④ Main steam line | ⑩ CRD system (charging water header) |
| ⑤ Primary containment | ⑪ Filter |
| ⑥ Isolation valves | |



AFFIDAVIT


COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF LEHIGH) : **SS**

I, HAROLD G. STANLEY, being duly sworn according to law, state that I am Vice President - Nuclear Operations of Pennsylvania Power & Light Company and that the facts set forth on the attached report in accordance with the request outlined in NRC Bulletin 93-03, are true and correct to the best of my knowledge, information and belief.



Harold G. Stanley
Vice President - Nuclear Operations

Sworn to and subscribed
before me this 17th day
of February, 1994.



Notary Public

Notarial Seal
Carol Irene Parks, Notary Public
Salem Twp., Luzerne County
My Commission Expires Feb. 21, 1994
Member, Pennsylvania Association of Notaries