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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

See Rpt.

SUBJECT: Forwards Rev 0 to SEA-EE-184, "Evaluation of Unit 1 Annunciator Class 1E - NonClass 1E Interfaces."

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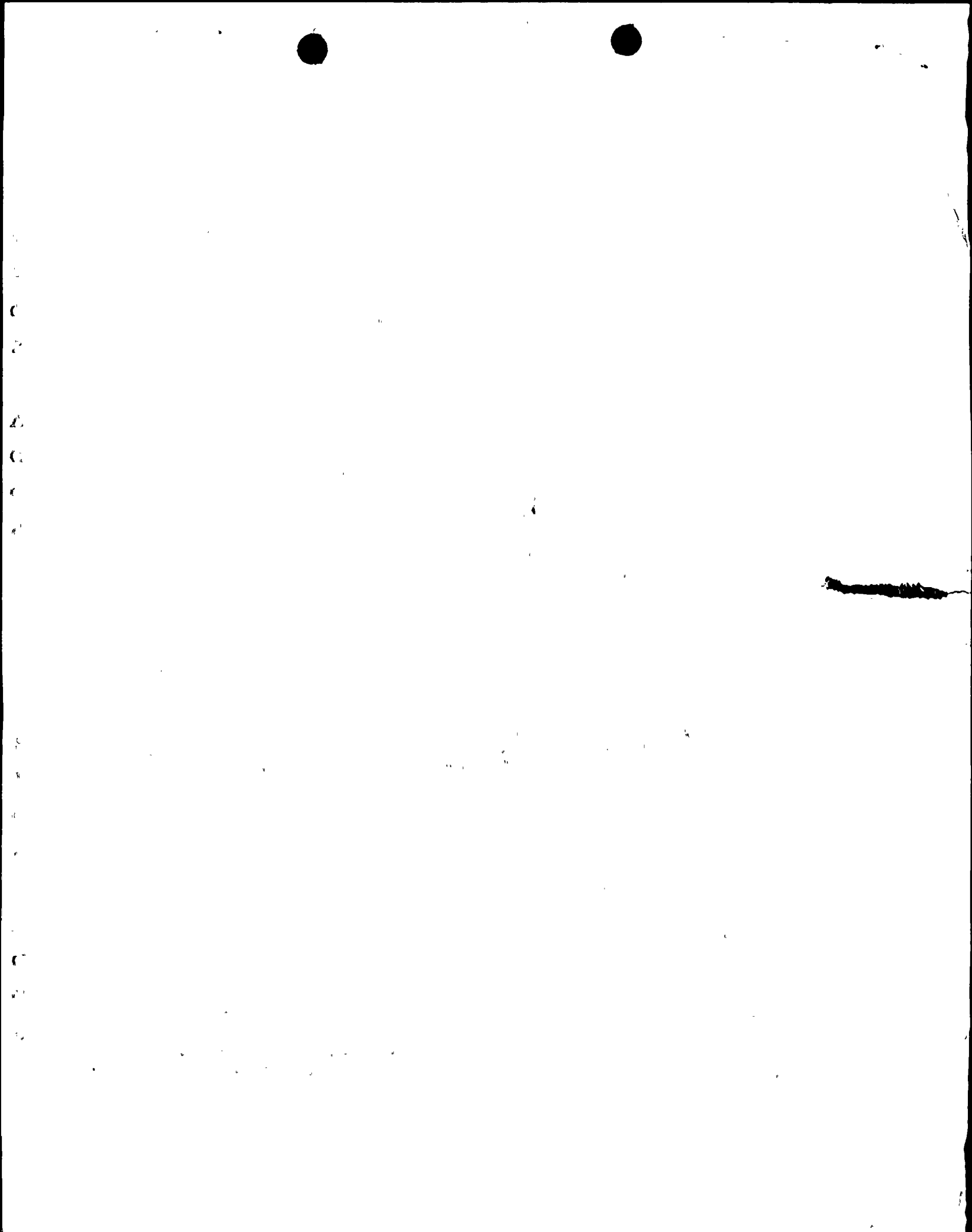
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SUSQUEHANNA STEAM ELECTRIC STATION
CLASS 1E/NON 1E ISOLATION-ANNUNCIATOR
INTERFACES
PLA-3293 FILES R41-2, A28-3B

Docket Nos. 50-387
and 50-388

Dear Dr. Butler:

Attached is a copy of Pennsylvania Power & Light Company's report, "Evaluation of Unit 1 Annunciator Class 1E - Non-Class 1E Interfaces."

The open contacts of all Class 1E - Non-Class 1E Unit 1 annunciator interface devices are able to withstand the specified impressed voltage across the contact without causing loss of operability of the devices. In other words, these interface devices will not fail in such a manner as to prevent the Class 1E circuits from meeting their minimum performance requirements if 120V AC or 250V DC is spuriously impressed on the open contacts utilized in the Annunciator System. However, the specified impressed voltages across annunciator input closed contacts could weld contacts closed if sufficient current flowed for a sufficient duration.

Analysis of the Class 1E - Non-Class 1E Unit 1 annunciator interface devices, except for the HV-151-F007A, HV-151-F007B, HV-155-F075, and HV-155-F079 limit switches shows that these devices will meet their minimum performance requirements even if the annunciator input contact should perhaps weld shut. This conclusion is based upon the evaluation of the installed Class 1E - Non-Class 1E devices that shows:

-- The interface devices change position and meet their minimum performance requirements before the annunciator contacts are exposed to potential contact welding.

OR

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-- The interface devices are used for alarm and indication only and contacts from these devices are not used in Class 1E circuits.

OR

-- The interface devices meet their minimum performance requirements even with annunciator input contacts welded shut.

OR

-- The interface devices are in affiliated (associated) circuits and contacts from these devices are not used in Class 1E circuits.

In the event annunciator input limit switches for HV-151-F007A, HV-151-F007B, HV-155-F075, and HV-155-F079 weld shut, the limit switch main drive shafts could perhaps break loose internal to the valves causing the valves to jam, thus potentially preventing full closure of the valves. More than likely the welded shift limit switches would cause damage to the limit switch gearing, but would not prevent the subject valves from closing.

To assure the HV-151-F007A, HV-151-F007B, HV-155-F075 and HV-155-F079 valve annunciator input limit switches do not weld shut, qualified Class 1E - Non-Class 1E isolation devices are to be installed in the annunciator input limit switch circuits from these valves. This action will be tracked by NCR 87-0021.

Very truly yours,



H. W. Keiser

Attachment

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G.S. Barber, NRC Sr. Resident Inspector
Mr. M.C. Thadani, NRC Project Manager

