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 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
 AUTH. NAME AUTHOR AFFILIATION
 KEISER, H.W. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 BUTLER, W.R. Project Directorate I-2

SUBJECT: Forwards response to Generic Ltr 88-14, including general requirements & schedule for completion of testing.

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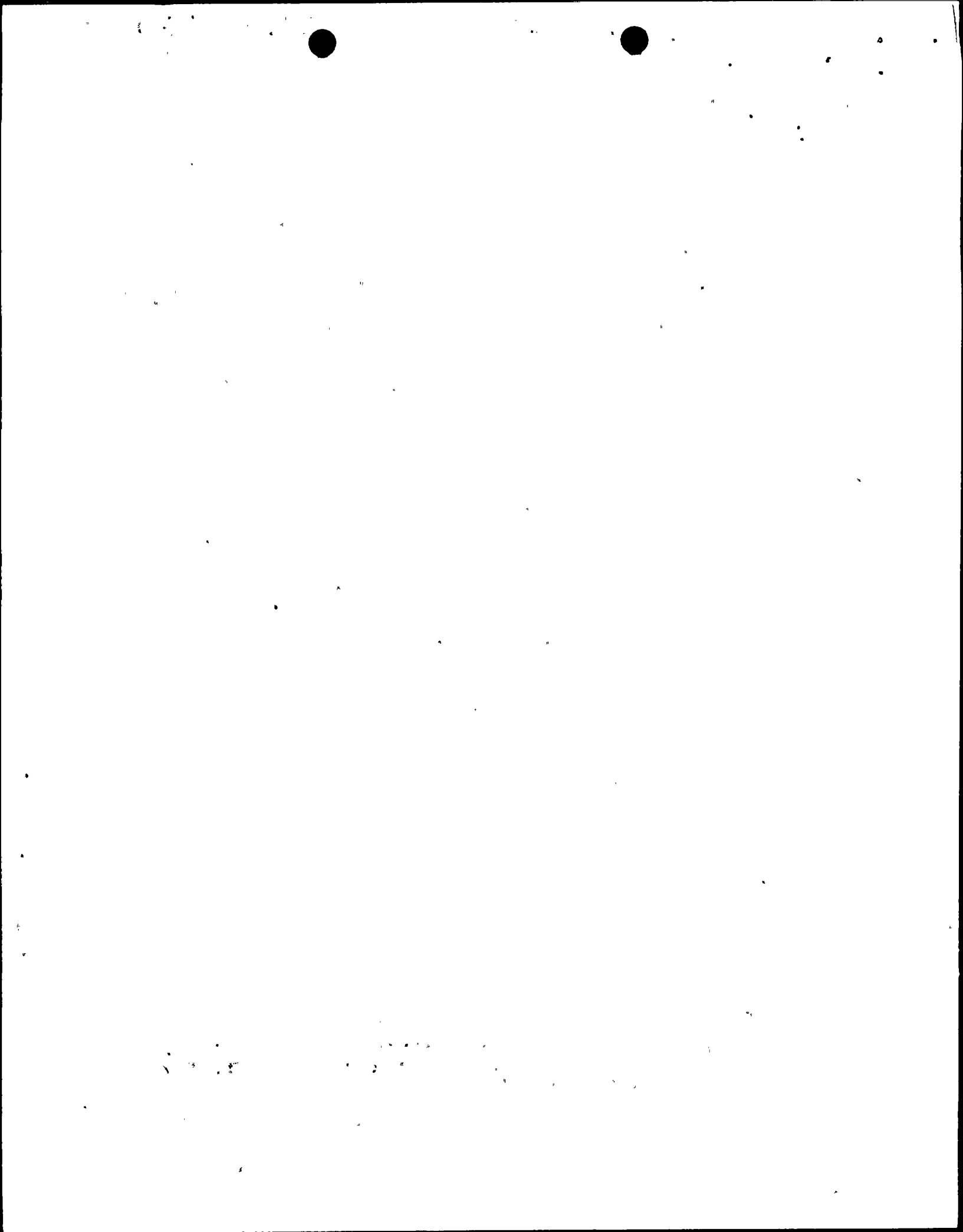
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Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101-1179 • 215/770-5151

Harold W. Keiser
Senior Vice President-Nuclear
215/770-4194

FEB 24 1989

Director of Nuclear Reactor Regulation
Attention: Dr. W. R. Butler, Project Director
Project Directorate I-2
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, 'D.C.' 20555

SUSQUEHANNA STEAM ELECTRIC STATION
RESPONSE TO GENERIC LETTER 88-14
PLA-3153 FILE R41-2

Docket Nos. 50-387
and 50-388

Dear Dr. Butler:

In response to Generic Letter 88-14, the attached information provides Pennsylvania Power & Light Company's results for the general requirements of the letter identified on Attachment 1 and our schedule for completion of testing identified on Attachment 2.

If you have any questions, please contact Mr. J.B. Wesner at (215) 770-7906.

Very truly yours,


H. W. Keiser

Attachments

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

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AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA)
 : SS
COUNTY OF LEHIGH)

I, HAROLD W. KEISER, being duly sworn according to law, state that I am Sr. Vice President - Nuclear of Pennsylvania Power & Light Company and that the facts set forth on the attached response to Generic Letter 88-14, are true and correct to the best of my knowledge, information and belief.

H. Keiser

Harold W. Keiser
Sr. Vice President - Nuclear

Sworn to and subscribed
before me this *24th* day
of *February*, 1989.

Helen J. Wolfer

Notary Public

NOTARIAL SEAL
Helen J. Wolfer, Notary Public
Allentown, Lehigh County
My Commission Expires April 4, 1989



F A Y

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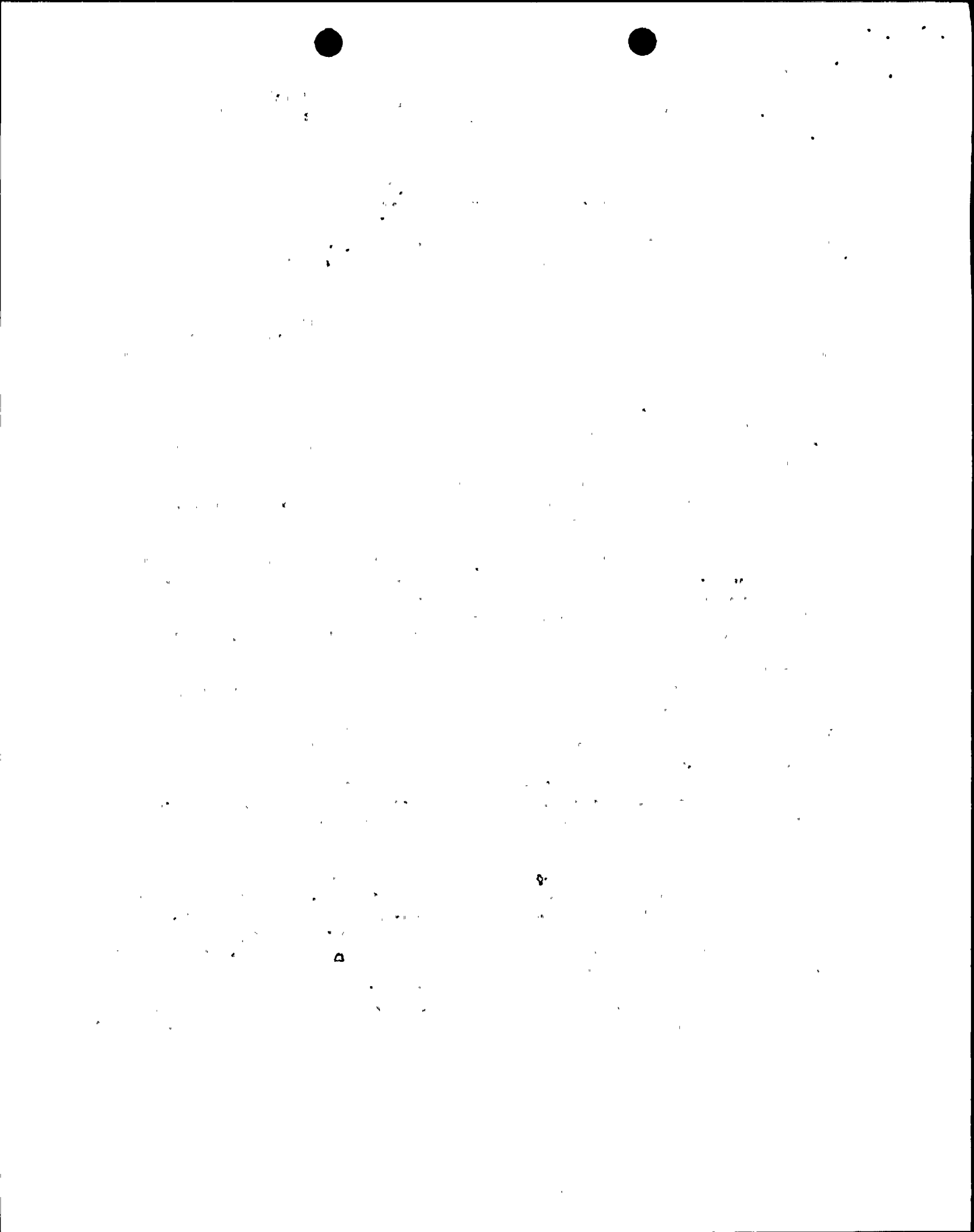
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RESPONSE TO REQUIREMENTS OF
NRC GENERIC LETTER 88-14

Requirement 1 - Verification by test that actual instrument air quality is consistent with manufacturers recommendations for individual components served.

Response - The four (4) elements for the quality of instrument air, established by ISA-S7.3 (Instrument Society of America - Quality Standard for Instrument Air) are addressed in response to requirement 1, and are described below:

1. Dewpoint - Dewpoint readings are taken and documented periodically (approximately every 2-4 weeks). These readings have been taken since 7/88. The average dewpoint reading has been in the -40°F range. The highest dewpoint reading taken to date was 34°F which is still within ISA-S7.3 criteria. The dewpoint readings will continue until a modification installing constant dewpoint monitoring with a high dewpoint alarm has been implemented.
2. Particulate - Several local filters at high volume users were inspected. High volume users were chosen because particulate present in the system would accumulate at these locations. A trace of particulate was discovered at two of the components while the remaining components were found to be clean. Monthly visual inspections of these filters will continue until two (2) modifications are implemented: the first modification will replace the existing three (3) micron dryer after filters with a higher efficiency filter (approximately one (1) micron). The second modification will install high efficiency filters locally, at selected critical components (approximately one (1) micron). A preventive maintenance program will be established to maintain these filters to ensure particulate size at the components remains below ISA S7.3 requirements. We feel that installing and maintaining local filters coupled with higher efficiency dryer afterfilters, vs. periodic testing, will provide better assurance that maximum particulate size is not exceeded.
3. Oil Content - The testing performed as part of NPE Technical Report NPE-85-007 (Instrument Air Task Force Report, dated June 1985) along with a current review of the Instrument Air System design change chronology, confirms that the oil content (hydrocarbon) is within ISA S7.3 criteria. Report NPE-85-007 concluded that the SSES instrument air system is free of oil contamination. A review of the system design change chronology was performed to insure that no modifications have been implemented since the report was issued that invalidate the results (for example, the instrument air compressors are oil-free).



4. **Contaminants** - We have not performed specific testing to evaluate the presence of contaminants (corrosive contaminants, flammable or toxic gases), however we are confident that none exist based on the location of the compressor intakes in the areas that provide main access/egress to the plants. These areas are surveyed frequently by Health Physics for radiological contaminants. Also, periodic maintenance performed on air supplied components has not revealed degradation that would be attributed to the presence of contaminants. In addition, the process connections to the instrument air piping include check valves which preclude the possibility of contamination of the air system.

Requirement 2 - Verification that maintenance practices, emergency procedures and training are adequate to ensure that safety-related equipment will function as intended on a loss of instrument air.

Response - Maintenance practices, emergency procedures and training are discussed below:

1. Maintenance - Our preventive maintenance program (PM) on the Instrument Air System was reviewed to ensure that scope and frequency of activities are consistent with both manufacturers' recommendations and previous operating history. This review verified that the components critical to maintaining good quality air, such as dryer pre-filters, afterfilters and desiccant, are maintained consistent with the above criteria. In addition, our ongoing monitoring program, which includes daily dryer filter differential pressure readings, dryer purge flow readings, regenerating dryer temperature readings and periodic dewpoints, will identify any need to modify our preventive maintenance program.
2. Procedures - Our emergency procedures were reviewed confirming that they provide sufficient guidance in the event of a loss of air. The review of AD-QA-300 "Conduct of Operations," ON-218-001 "Loss of Instrument Air," and AR-224-001 "Instrument/Service Air 2C668" determined that the following key elements are contained in our procedures:
 - steps to restore instrument air header pressure.
 - identification of alarms and setpoints in the event of a loss of instrument air.
 - actions required if air pressure cannot be restored.
 - identification of components operated by instrument air and the position in which they fail.
 - identification of events that would occur on a loss of instrument air.



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3. Training - A review of our Operations training program revealed that operators are trained biennially for a loss of instrument air on Unit of Instruction NTP-QA-31.2 "Licensed Operator Requalification Program - Implementation." The emergency procedures (key elements summarized above) are used in the training. In addition, the training includes simulation of a loss of instrument air on the simulator.

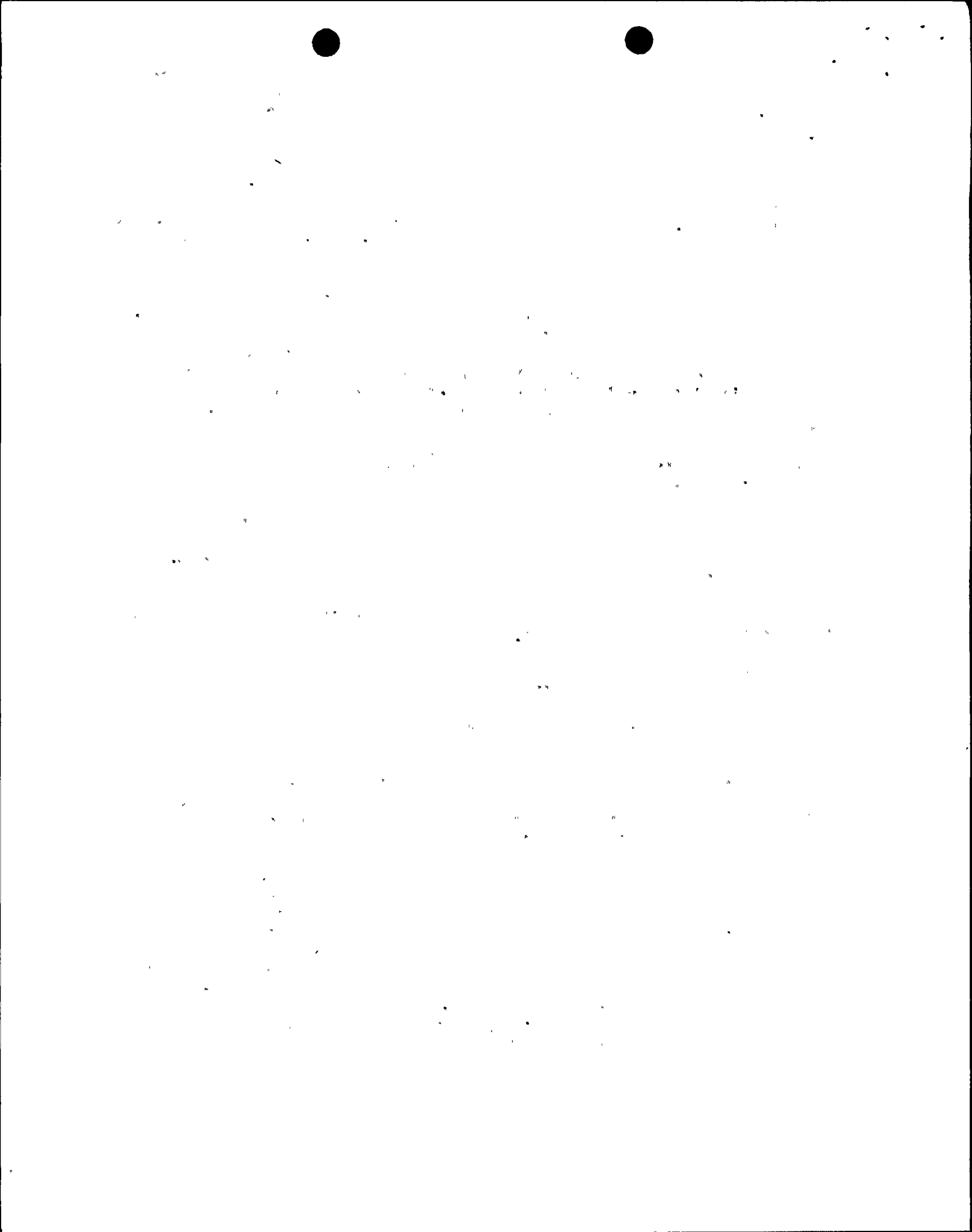
Requirement 3 - Verification that the design of the entire Instrument Air System including air or other pneumatic accumulators is in accordance with its intended function, including verification by test that air-operated safety-related components will perform as expected in accordance with all design basis events, including a loss of the normal instrument air system. This design verification should include an analysis of current air-operated component failure positions to verify that they are correct for assuring required safety functions.

Response - The results of the design and operations verification are summarized in Attachment 2.

1. Design Verification - Our design verification consisted of the following:
 - A. Determining the scope of components for the Generic Letter (Columns 1, 2, and 3 of Attachment 2).
 - B. Documenting component failure positions identified on design drawings (Column 4a of Attachment 2).
 - C. Documenting component failure position required to support system safety function (Column 4b of Attachment 2).
 - D. Documenting components design failure position (Column 4c of Attachment 2).

Documentation regarding the determination of details for items A, B and C above are contained in PP&L Study SEA-ME-169 "Instrument Air Design Verification," dated 1/13/89 and PP&L Calculation M-CAS-004 "Instrument Air Design Verification," dated 1/13/89.

The design failure positions in Item D were obtained by researching pre-op test reports for tests that isolated, bled down the air supply, and documented the failure position of the component. A review was made to ensure that the results of the pre-op tests were not invalidated. The specific pre-op tests are documented in the Test Procedures (TP) referenced in column 7 of Attachment 2. Where pre-op tests could not be found, the design failure position will be verified by test. For these cases, the test procedure that will be used (i.e., TP-118-006, 007 or TP-218-006, 007) is also identified in Column 7 of Attachment 2. Dates for which the test results will be available are also provided on Attachment 2 Column 5.



2. Operations Verification - The operations verification consisted of researching surveillance tests, periodic operational evolutions, etc., which document the present operability of the components. The results of the operation verification is documented in Attachment 2 Column 6.

Requirement 4 - Provide a discussion of our program for maintaining proper instrument air quality.

Response - Our program consists of preventive maintenance, periodic monitoring and formation of a task team whose goal is to improve the reliability and performance of the instrument air system. The preventive maintenance program and frequent monitoring has been discussed in response to the previous requirements.

The task team efforts are ongoing, hence we expect additional system enhancements to be identified. Below is a summary of the key recommendations made thus far that we plan to exercise as options for future system enhancement:

- installation of local high efficiency filter at critical components.
- replacement of silica gel desiccant with activated alumina in the dryers, to reduce desiccant dusting.
- replacement of float-type drain traps with solenoid operated drain valves, to reduce the load on the dryers.
- replacement of dryer pre- and afterfilters with higher efficiency filters.
- install constant dewpoint monitoring.
- install an additional dryer skid.



SUSQUEHANNA STEAM ELECTRIC STATION
INSTUMENT AIR SYSTEM NRC GENERIC LETTER 88-14

P&ID	SYSTEM	COMPONENT	FAILURE POSITION			SCHEDULED TEST DATE	VERIFICATION OF PRESENT OPERABILITY	VERIFICATION OF DESIGN FAILURE POSITION
			P&ID	REQ'D	DESIGN			
M-2187	R.B. CHILLED WTR.	HW-28781A2	FC	FC	FC	N/A	SE-259-201	TP-218-006
M-2187	R.B. CHILLED WTR.	HW-28781B1	FC	FC	FC	N/A	SE-259-201	TP-218-006
M-2187	R.B. CHILLED WTR.	HW-28781B2	FC	FC	FC	N/A	SE-259-201	TP-218-006
M-2187	R.B. CHILLED WTR.	HW-28791A1	FC	FC	FC	N/A	SE-259-200	TP-218-006
M-2187	R.B. CHILLED WTR.	HW-28791A2	FC	FC	FC	N/A	SE-259-200	TP-218-006
M-2187	R.B. CHILLED WTR.	HW-28791B1	FC	FC	FC	N/A	SE-259-200	TP-218-006
M-2187	R.B. CHILLED WTR.	HW-28791B2	FC	FC	FC	N/A	SE-259-200	TP-218-006
VC-175	HWAC R.B. ZONE III	HD-17505A	FC	FC		12/89	SE-159-200	TP-118-007
VC-175	HWAC R.B. ZONE III	HD-17506B	FC	FC		12/89	SE-159-200	TP-118-007
VC-175	HWAC R.B. ZONE III	HD-17564A	FC	FC		12/89	SE-159-200	TP-118-007
VC-175	HWAC R.B. ZONE III	HD-17564B	FC	FC		12/89	SE-159-200	TP-118-007
VC-175	HWAC R.B. ZONE III	HD-17586A	FC	FC		12/89	SE-159-200	TP-118-007
VC-175	HWAC R.B. ZONE III	HD-17586B	FC	FC		12/89	SE-159-200	TP-118-007
VC-175	R.B. STANDBY GAS TREATMENT SYS.	HW-07551A1	FC	FC			SEE NOTE 3	SEE NOTE 4
VC-175	R.B. STANDBY GAS TREATMENT SYS.	HW-07551A2	FC	FC			SEE NOTE 3	
VC-175	R.B. STANDBY GAS TREATMENT SYS.	HW-07551A3	FC	FC			SEE NOTE 3	
VC-175	R.B. STANDBY GAS TREATMENT SYS.	HW-07551A4	FC	FC			SEE NOTE 3	
VC-175	R.B. SSYS	HW-07551B1	FC	FC			SEE NOTE 3	
VC-175	R.B. SSYS	HW-07551B2	FC	FC			SEE NOTE 3	
VC-175	R.B. SSYS	HW-07551B3	FC	FC			SEE NOTE 3	
VC-175	R.B. SSYS	HW-07551B4	FC	FC			SEE NOTE 3	
VC-175	R.B. STANDBY GAS TREATMENT SYS.	TV-07550A	FC	FC			SEE NOTE 3	
VC-175	R.B. AIR FLOW DIAG.	TV-07554B	FC	FC			SEE NOTE 3	
VC-178	HWAC CONT. DIAG.	TV-07813A	FC	FC			SEE NOTE 3	FF110480 SM. 4901
VC-178	HWAC CONT. DIAG.	TV-07813B	FC	FC			SEE NOTE 3	FF110480 SM. 4901
VC-2175	HWAC R.B. ZONE III	HD-27505A	FC	FC		3/90	SE-259-200	TP-218-007
VC-2175	HWAC R.B. ZONE III	HD-27506B	FC	FC		3/90	SE-259-200	TP-218-007
VC-2175	HWAC R.B. ZONE III	HD-27564A	FC	FC		3/90	SE-259-200	TP-218-007
VC-2175	HWAC R.B. ZONE III	HD-27564B	FC	FC		3/90	SE-259-200	TP-218-007
VC-2175	HWAC R.B. ZONE III	HD-27586A	FC	FC		3/90	SE-259-200	TP-218-007
VC-2175	HWAC R.B. ZONE III	HD-27586B	FC	FC		3/90	SE-259-200	TP-218-007
VC-176	HWAC R.B.	HD-17651				12/89	CP-173-001	TP-118-007
VC-2176	HWAC R.B.	HD-27651				3/90	CP-273-001	TP-218-007

NOTES:

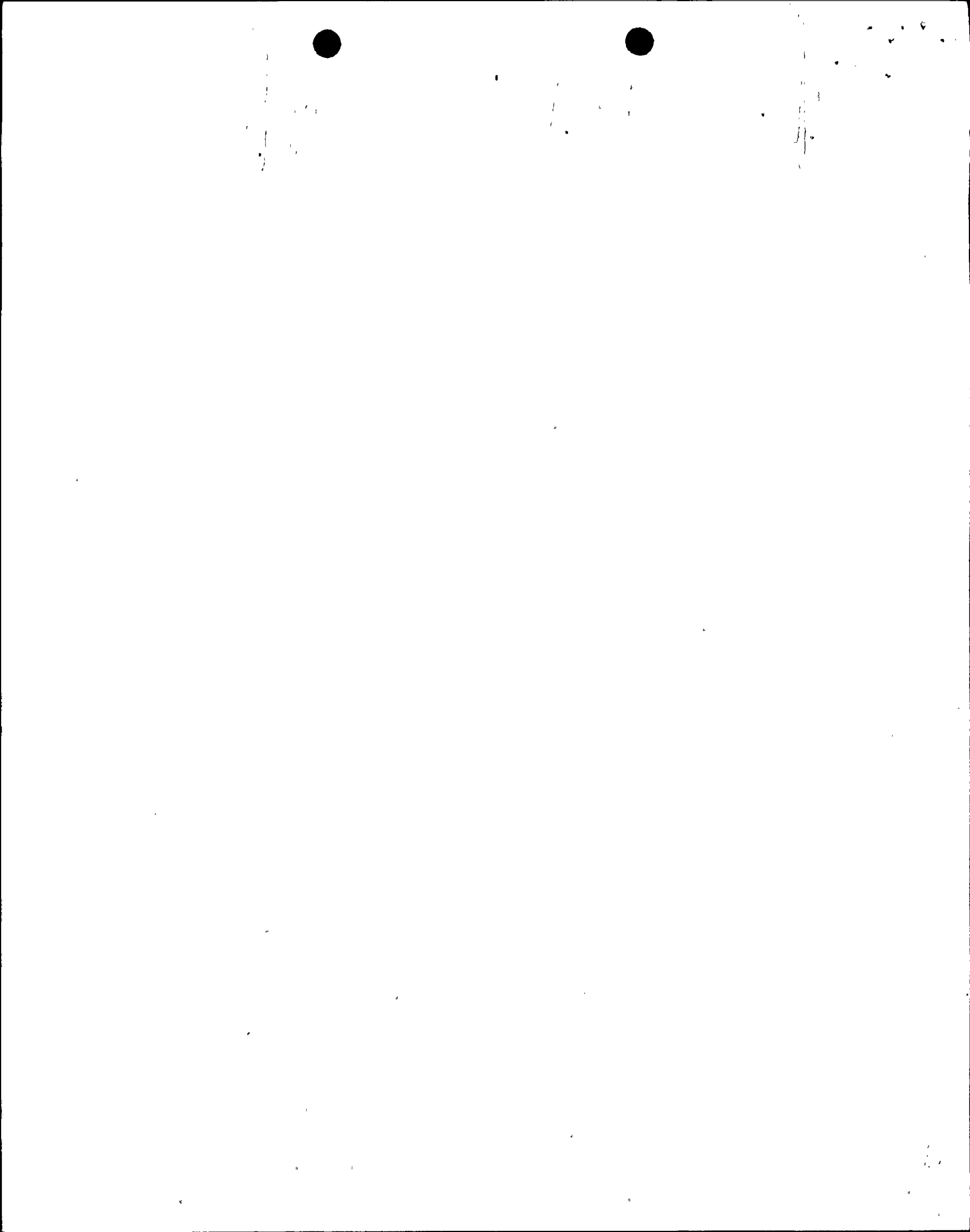
1. GESIL 477, dated 12/08/88 recommends actions required to insure complete MSIV closure following a postulated recirc line break DBA. These recommendations include steps to take to insure availability of compressed air. Our present strategy is that the response to this GESIL will satisfy the requirements of Generic Letter 88-14. Accordingly the MSIV's will not be tested as part of the Generic Letter, at this time. Engineering will track the response to the GESIL and if required will identify the need to test the MSIV's to satisfy the Generic Letter requirements. Also, the solenoid and dump valves associated with the MSIV's (Ref. P&ID M-141 sh.1 and M2141 sh.1) have not been included in this Attachment.
2. The design failure positions presently identified, are based on PRE-OP test reports which are referenced in the TP's in Column 7.
3. These valves are normally closed/fail closed valves; therefore, verification of present operability is not necessary.
4. The verification of design failure position will be accomplished by either researching component design drawings or by performing a test. The results will be supplied along with our final response upon completion of all testing.

DEFINITION OF TERMS

1. P&ID - Applicable design drawing where component can be found
2. SYSTEM - Plant System in which the component is installed
3. COMPONENT - Unique identifier assigned to component
4. FAILURE POSITION:
 - a. P&ID - Component failure position as installed and as identified on design drawing
 - b. REQ'D - Component failure position required to enable system to perform its safety function
 - c. DESIGN - Actual component failure position on a loss of air ("component design")
5. SCHEDULED TEST DATE - Date test results will be available
6. VERIFICATION OF PRESENT OPERABILITY - Periodic administratively controlled activity to verify component operability
7. VERIFICATION OF DESIGN FAILURE POSITION - "One time" loss of air test to document design failure position, or the applicable component design drawing which documents the design failure position

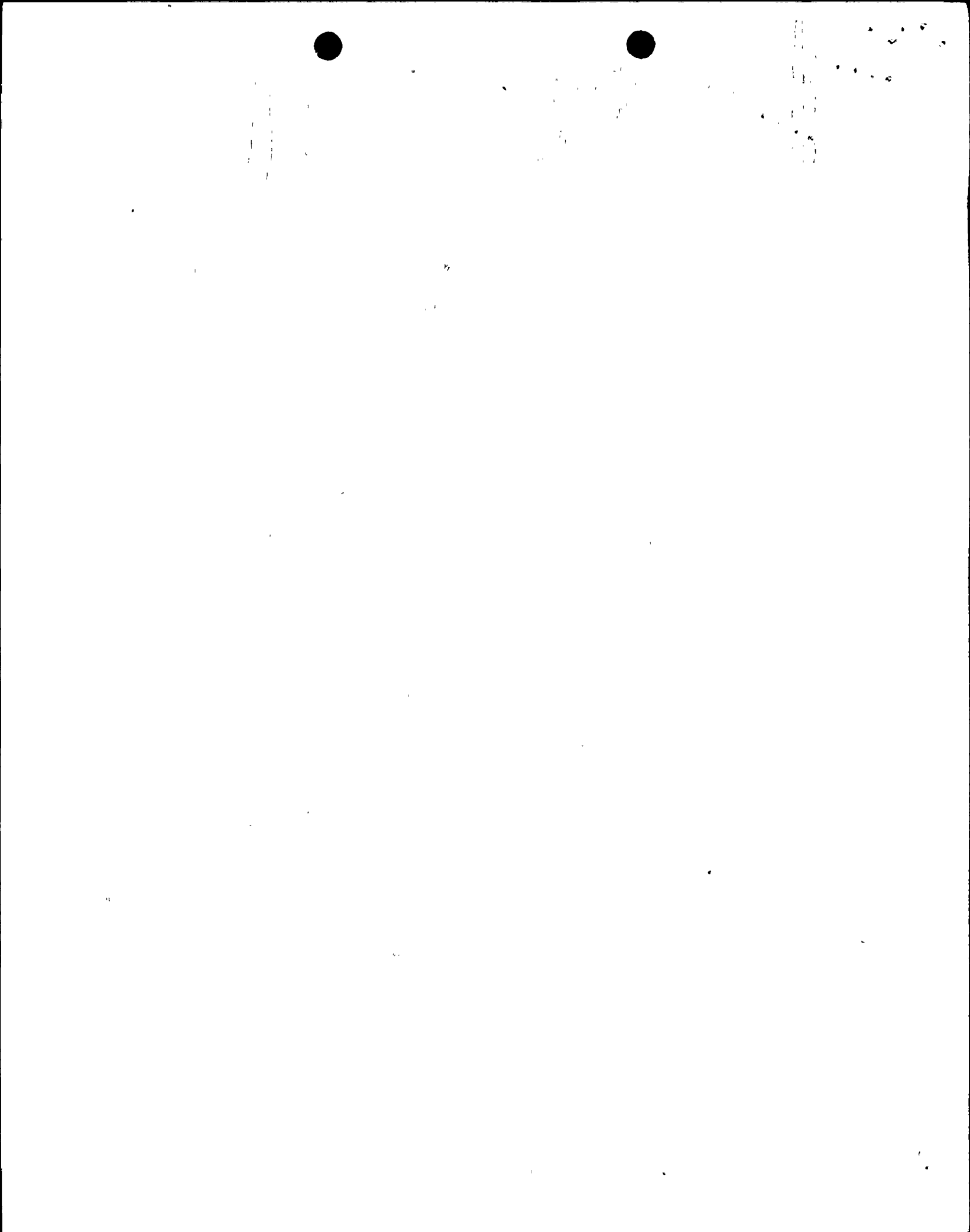
SUSQUEHANNA STEAM-ELECTRIC STATION
INSTRUMENT AIR SYSTEM NRC GENERIC LETTER 68-14

FVID	SYSTEM	COMPONENT	FAILURE POSITION			SCHEDULED TEST DATE	VERIFICATION OF PRESENT OPERABILITY	VERIFICATION OF DESIGN FAILURE POSITIONS
			FVID	REQ'D	DESIGN			
M-109	SERVICE WATER	WV-10942A2	FC	FC		6/89	SO-054-004	TP-118-006
M-109	SERVICE WATER	WV-10943B2	FC	FC		6/89	SO-054-004	TP-118-006
M-110	SERVICE WATER	WV-11024A1	FC	FC		6/89	SO-054-004	TP-118-006
M-110	SERVICE WATER	WV-11024A2	FC	FC		6/89	SO-054-004	TP-118-006
M-110	SERVICE WATER	WV-11024B1	FC	FC		6/89	SO-054-004	TP-118-006
M-110	SERVICE WATER	WV-11024B2	FC	FC		6/89	SO-054-004	TP-118-006
M-111	EMERGENCY SERVICE WATER	WV-11143A	FC	FC		6/89	SO-054-004	TP-118-006
M-111	EMERGENCY SERVICE WATER	WV-11143B	FC	FC		6/89	SO-054-004	TP-118-006
M-112	EXP. SERV. WTR. SYS.	WV-112F074A	FC	FC		12/89	SO-116-002	TP-118-007
M-112	EXP. SERV. WTR. SYS.	WV-112F074B	FC	FC		12/89	SO-116-002	TP-118-007
M-141	NUCLEAR BOILER	WV-141F028A	-	FC	FC	N/A	N/A	SEE NOTE 1
M-141	NUCLEAR BOILER	WV-141F028B	-	FC	FC	N/A	N/A	SEE NOTE 1
M-141	NUCLEAR BOILER	WV-141F028C	-	FC	FC	N/A	N/A	SEE NOTE 1
M-141	NUCLEAR BOILER	WV-141F028D	-	FC	FC	N/A	N/A	SEE NOTE 1
M-143	EX. RECIP.	WV-143F020	FC	FC			SE-159-200	TP-118-007
M-147	SCFAM INLET	XV-147I26	FD	FD			SR-155-001	TP-118-011
M-147	SCFAM EXHAUST	XV-147I27	FD	FD			SR-155-001	TP-118-011
M-147	CONTROL FCD DRIVE	XV-147F010	FC	FC		6/89	SO-155-002	TP-118-006
M-147	CONTROL FCD DRIVE	XV-147F011	FC	FC		6/89	SO-155-002	TP-118-006
M-147	CONTROL PSD DRIVE	XV-147F180	FC	FC		6/89	SO-155-002	TP-118-006
M-147	CONTROL RGD DRIVE	XV-147F181	FC	FC		6/89	SO-155-002	TP-118-006
M-149	PCIC	WV-149F025	FC	FC	FC	N/A	SE-150-001	TP-118-007
M-149	PCIC	WV-149F026	FC	FC	FC	N/A	SE-150-001	TP-118-007
M-150	PCIC - TURB. PMP	WV-150F004	FC	FC	FC	N/A	SE-150-001	TP-118-007
M-150	PCIC - TURB. PMP	WV-150F005	FC	FC	FC	N/A	SE-150-001	TP-118-007
M-153	WPCI	WV-153F026	FC	FC	FC	N/A	SE-152-001	TP-118-007
M-153	WPCI	WV-153F029	FC	FC	FC	N/A	SE-152-001	TP-118-007
M-156	WPCI - TURB. PMP	WV-156F025	FC	FC	FC	N/A	SE-152-001	TP-118-007
M-156	WPCI - TURB. PMP	WV-156F026	FC	FC	FC	N/A	SE-152-001	TP-118-007
M-157	CONT. ATM. CONTROL	WV-15703	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15704	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15705	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15711	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15713	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15714	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15721	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15722	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15723	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15724	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-157	CONT. ATM. CONTROL	WV-15725	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-161	LIQUID RAD. COLLECTION	WV-16106A1	FC	FC		6/89	SE-159-200	TP-118-006
M-161	LIQUID RAD. COLLECTION	WV-16106A2	FC	FC		6/89	SE-159-200	TP-118-006
M-161	LIQUID RAD. COLLECTION	WV-16116A1	FC	FC		6/89	SE-159-200	TP-118-006
M-161	LIQUID RAD. COLLECTION	WV-16116A2	FC	FC		6/89	SE-159-200	TP-118-006
M-161	LIQUID RAD. COLLECTION	WV-16149	FC	FC			SEE NOTE 3	SEE NOTE 4
M-161	LIQUID RAD. COLLECTION	WV-16179	FC	FC			SEE NOTE 3	SEE NOTE 4
M-175	WAC R.B. ZONE III	WD-075A2A	FD	FD		12/89	SE-170-011	TP-118-007
M-175	WAC R.B. ZONE III	WD-075A3B	FD	FD		12/89	SE-170-011	TP-118-007
M-175	R.B. ZONE III WAC	WD-17502A	FC	FC		12/89	SE-159-200	TP-118-007



SCS&JEHANNA STEAM ELECTRIC STATION
INSTUMENT AIR SYSTEM NRC GENERIC LETTER 89-14

PVID	SYSTEM	COMPONENT	FAILURE POSITION			SCHEDULED TEST DATE	VERIFICATION OF PRESENT OPERABILITY	VERIFICATION OF DESIGN FAILURE POSITION
			PVID	REQ'D	DESIGN			
M-175	R.B. ZONE III HVAC	HD-175028	FC	FC		12/89	SE-159-200	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17514A	FC	FC		12/89	SE-159-200	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17514B	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17524A	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17524B	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17534A	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17534B	FC	FC		12/89	SE-159-200	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17534C	FC	FC		12/89	SE-159-200	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17534D	FC	FC		12/89	SE-159-200	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17534E	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17534F	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17534G	FC	FC		12/89	SE-159-200	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17534A	FC	FC		12/89	CP-134-002	TP-118-007
M-175	R.B. ZONE III HVAC	HD-17534B	FC	FC		12/89	CP-134-002	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17576A	FC	FC		12/89	SE-159-200	TP-118-007
M-175	HVAC R.B. ZONE III	HD-17576B	FC	FC		12/89	SE-159-200	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07802A	FC	FC		12/89	SE-030-002	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07802B	FC	FC		12/89	SE-030-002	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07824A1	FC	FC		12/89	SE-030-002	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07824B1	FC	FC		12/89	SE-030-002	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07872A	FC	FC		12/89	SE-030-002	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07872B	FC	FC		12/89	SE-030-002	TP-118-007
M-176	HVAC CONT. DIAS.	HD-07872C	FC	FC		12/89	SE-030-002	TP-118-007
M-167	MISC. HVAC EQUIPT. DRAINAGE SYS.	EV-03201A	FC	FC		12/89	TP-118-007	TP-118-007
M-167	MISC. HVAC EQUIPT. DRAINAGE SYS.	EV-03201B	FC	FC		12/89	TP-118-007	TP-118-007
M-167	R.B. CHILLED WTR.	HV-18781A1	FC	FC	FC	N/A	SE-159-201	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18781A2	FC	FC	FC	N/A	SE-159-201	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18781B1	FC	FC	FC	N/A	SE-159-201	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18781B2	FC	FC	FC	N/A	SE-159-201	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18791A1	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18791A2	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18791B1	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-167	R.B. CHILLED WTR.	HV-18791B2	FC	FC	FC	N/A	SE-159-200	TP-118-006
M-2109	SERVICE WATER	HV-20942A2	FC	FC		11/89	SO-054-005	TP-218-006
M-2109	SERVICE WATER	HV-20942B2	FC	FC		11/89	SO-054-005	TP-218-006
M-2110	SERVICE WATER	HV-21024A1	FC	FC		11/89	SO-054-005	TP-218-006
M-2110	SERVICE WATER	HV-21024A2	FC	FC		11/89	SO-054-005	TP-218-006
M-2110	SERVICE WATER	HV-21024B1	FC	FC		11/89	SO-054-005	TP-218-006
M-2110	SERVICE WATER	HV-21024B2	FC	FC		11/89	SO-054-005	TP-218-006
M-2111	EMERGENCY SERVICE WATER	HV-21142A	FC	FC		11/89	SO-054-005	TP-218-006
M-2111	EMERGENCY SERVICE WATER	HV-21143B	FC	FC		11/89	SO-054-005	TP-218-006
M-2112	RWP. SERV. WTR. SYS.	HV-212F074A	FC	FC		3/90	SE-216-002	TP-218-007
M-2112	RWP. SERV. WTR. SYS.	HV-212F074B	FC	FC		3/90	SE-216-002	TP-218-007
M-2141	NUCLEAR BOILER	HV-241F022A	-	FC		N/A	N/A	SEE NOTE 1
M-2141	NUCLEAR BOILER	HV-241F022B	-	FC		N/A	N/A	SEE NOTE 1
M-2141	NUCLEAR BOILER	HV-241F022C	-	FC		N/A	N/A	SEE NOTE 1
M-2141	NUCLEAR BOILER	HV-241F022D	-	FC		N/A	N/A	SEE NOTE 1
M-2143	RX. RECIRC.	HV-242F020	FC	FC			SE-259-200	TP-218-007



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FRIC	SYSTEM	COMPONENT	FAILURE POSITION			SCHEDULED TEST DATE	VERIFICATION OF PRESENT OPERABILITY	VERIFICATION OF DESIGN FAILURE POSITION
			PLD	FR'D	DESIGN			
M-2147	SCRAI INLET	XV-247126	FD	FD		SR-255-001	TP-255-004	
M-2147	SCRAI EXHAUST	XV-247127	FC	FD		SR-255-001	TP-255-004	
M-2147	CONTROL ROD DRIVE	XV-247F010	FC	FC	11/89	SO-255-002	TP-218-006	
M-2147	CONTROL ROD DRIVE	XV-247F011	FC	FC	11/89	SO-255-002	TP-218-006	
M-2147	CONTROL ROD DRIVE	XV-247F129	FC	FC	11/89	SO-255-002	TP-218-006	
M-2147	CONTROL ROD DRIVE	XV-247F181	FC	FC	11/89	SO-255-002	TP-218-006	
M-2149	FCIC	XV-249F025	FC	FC	3/90	SE-250-001	TP-218-007	
M-2149	FCIC	XV-249F026	FC	FC	3/90	SE-250-001	TP-218-007	
M-2150	FCIC - TURB. PMP	XV-250F004	FC	FC	3/90	SE-250-001	TP-218-007	
M-2150	FCIC - TURB. PMP	XV-250F005	FC	FC	3/90	SE-250-001	TP-218-007	
M-2155	MPCI	XV-255F028	FC	FC	3/90	SE-252-001	TP-218-007	
M-2155	MPCI	XV-255F029	FC	FC	3/90	SE-252-001	TP-218-007	
M-2156	MPCI - TURB. PMP	XV-256F025	FC	FC	3/90	SE-252-001	TP-218-007	
M-2156	MPCI - TURB. PMP	XV-256F026	FC	FC	3/90	SE-252-001	TP-218-007	
M-2157	CONT. ATM. CONTROL	XV-25703	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25704	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25705	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25711	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25713	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25714	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25721	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25722	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25723	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25724	FC	FC	FC	N/A	TP-218-006	
M-2157	CONT. ATM. CONTROL	XV-25725	FC	FC	FC	N/A	TP-218-006	
M-2161	LIQUID RAD. COLLECTION	XV-2610841	FC	FC	11/89	SE-259-200	TP-218-006	
M-2161	LIQUID RAD. COLLECTION	XV-2610842	FC	FC	11/89	SE-259-200	TP-218-006	
M-2161	LIQUID RAD. COLLECTION	XV-2611641	FC	FC	11/89	SE-259-200	TP-218-006	
M-2161	LIQUID RAD. COLLECTION	XV-2611642	FC	FC	11/89	SE-259-200	TP-218-006	
M-2161	LIQUID RAD. COLLECTION	XV-26149	FC	FC		SEE NOTE 3	SEE NOTE 4	
M-2161	LIQUID RAD. COLLECTION	XV-26175	FC	FC		SEE NOTE 3	SEE NOTE 4	
M-2175	R.B. ZONE III MWAC	WD-27502A	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27502B	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27514A	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27514B	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27524A	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27524B	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534A	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534B	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534C	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534D	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534E	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534F	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534G	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534H	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534I	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534J	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534K	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534L	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534M	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534N	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534O	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534P	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534Q	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534R	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534S	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534T	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534U	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534V	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534W	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534X	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534Y	FC	FC	3/90	SE-259-200	TP-218-007	
M-2175	R.B. ZONE III MWAC	WD-27534Z	FC	FC	3/90	SE-259-200	TP-218-007	
M-2187	R.B. D-FILLED WFL	WD-28781A1	FC	FC	FC	N/A	TP-218-006	

