

SUSQUEHANNA STEAM ELECTRIC STATION

UNIT 2

INSERVICE INSPECTION PROGRAM PLAN

FOR

PUMP AND VALVE OPERATIONAL TESTING

Rev.	Description	Prepared by:	Approved by:	Date
5	Responses to NRC Comments	Signatures on File		
6	Addition of Water Level Backfill Valves	Signatures on File		
7	10 Year ASME Code Update	Signatures on File		
8	Corrections to Valve Tables	Signatures on File		
9	Addition of Fuel Pool Cooling Valves	Signatures on File		
10	Responses to NRC Comments and Additional Changes	Signatures on File		
11	Response to NRC Comments on RR#23 Excess Flow Check Valves	Signatures on File		
12	Response to NRC Comments on ROJ-21 FPC Manual Valves	<i>Becky Mattern</i>	<i>J.R. King</i>	<i>5/21/80</i>

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RCIC TURBINE-PUMP M-2150

Valve Number	P&ID Coordinates	ASME Class	ASME Category	Active/Passive	Valve Size (inches)	Valve Type	Actuator Type	Remote Position Indication	Safety Position	Tests Required	Tests Performed	Test Frequency	CS/RO Justification	Relief Request(s)	Remarks
250F047	G-5	2	C	A	2	CK	SA	-	C	FS	FS	Q	-	-	
HV-25012	C-7	2	B	A	3	GB	MO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-250F004	H-5	2	B	A	1	GB	AO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-250F005	H-4	2	B	A	1	GB	AO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-250F045	C-8	2	B	A	4	GB	MO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-250F046	G-4	2	B	A	2	GB	AO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
PSE-250D001	B-5	2	D	A	2	RD	SA	-	O	-	-	-	-	-	No testing required.

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RESIDUAL HEAT REMOVAL M-2151 Sheet 1

Valve Number	P&ID Coordinates	ASME Class	ASME Category	Active/Passive	Valve Size (inches)	Valve Type	Actuator Type	Remote Position Indication	Safety Position	Tests Required	Tests Performed	Test Frequency	CS/RO Justification	Relief Request(s)	Remarks
251070	C-5	2	B	A	12	GT	MA	-	O/C	FS	FS	Q	-	RR33	
251F031A	H-2	2	C	A	20	CK	SA	-	O/C	FS	FS	Q	-	-	
251F031C	G-3	2	C	A	20	CK	SA	-	O/C	FS	FS	Q	-	-	
251F046A	F-2	2	C	A	4	CK	SA	-	O	FS FS	PS FS	Q SD	- -	- RR26	Open test only.
251F046C	F-3	2	C	A	4	CK	SA	-	O	FS FS	PS FS	Q SD	- -	- RR26	Open test only.
251F089A	C-4	2	C	A	2	CK	SA	-	C	FS	FS	RF	RJ18	-	Closure test only.
251F090A	C-4	2	C	A	2	CK	SA	-	C	FS	FS	RF	RJ18	-	Closure test only.
HV-251F004A	F-8	2	B	A	24	GT	MO	X	O/C	FS ST PI -	FS ST PI -	Q Q 2Y -	- - - -	- - - -	T. S. Approved Amendment #119

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RESIDUAL HEAT REMOVAL M-2151 Sheet 2

Valve Number	P&ID Coordinates	ASME Class	ASME Category	Active/Passive	Valve Size (inches)	Valve Type	Actuator Type	Remote Position Indication	Safety Position	Tests Required	Tests Performed	Test Frequency	CS/RO Justification	Relief Request(s)	Remarks
HV-251F003A	F-5	2	B	A	20	GT	MO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-251F011A	H-6	2	A	P	4	GT	MA	X	C	LJ	LJ	2Y	-	-	Disabled.
HV-251F047A	C-8	2	B	A	20	GT	MO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-251F103A	C-3	2	A	P	1	GB	MO	X	C	LJ	LJ	2Y	-	-	
PSV-25106A	F-3	2	A,C	A	3/4	RV	SA	-	O/C	RV LJ	RV LJ	RV 2Y	- -	- -	
SV-251F079A	G-4	2	B	A	1	GB	SO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	Rapid acting valve.
SV-251F080A	G-5	2	B	A	1	GB	SO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	Rapid acting valve.

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RESIDUAL HEAT REMOVAL M-2151 Sheet 3

Valve Number	P&ID Coordinates	ASME Class	ASME Category	Active/Passive	Valve Size (inches)	Valve Type	Actuator Type	Remote Position Indication	Safety Position	Tests Required	Tests Performed	Test Frequency	CS/RO Justification	Relief Request(s)	Remarks
251060	F-6	2	B	A	16	GT	MA	-	O/C	FS	FS	Q	-	RR33	
251F031B	G-8	2	C	A	20	CK	SA	-	O/C	FS	FS	Q	-	-	
251F031D	H-8	2	C	A	20	CK	SA	-	O/C	FS	FS	Q	-	-	
251F046B	F-7	2	C	A	4	CK	SA	-	O	FS FS	PS FS	Q SD	- -	- RR26	Open test only.
251F046D	F-8	2	C	A	4	CK	SA	-	O	FS FS	PS FS	Q SD	- -	- RR26	Open test only.
251F089B	B-6	2	C	A	2	CK	SA	-	C	FS	FS	RF	RJ18	-	Closure test only.
251F090B	B-6	2	C	A	2	CK	SA	-	C	FS	FS	RF	RJ18	-	Closure test only.
HV-251F004B	F-3	2	B	A	24	GT	MO	X	O/C	FS ST PI -	FS ST PI -	Q Q 2Y -	- - - -	- - - -	T. S. Approved Amendment #119

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RESIDUAL HEAT REMOVAL M-2151 Sheet 4

Valve Number	P&ID Coordinates	ASME Class	ASME Category	Active/Passive	Valve Size (inches)	Valve Type	Actuator Type	Remote Position Indication	Safety Position	Tests Required	Tests Performed	Test Frequency	CS/RO Justification	Relief Request(s)	Remarks
HV-251F003B	F-4	2	B	A	20	GT	MO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-251F011B	H-3	2	A	P	4	GT	MA	X	C	LJ	LJ	2Y	-	-	Disabled.
HV-251F047B	C-2	2	B	A	20	GT	MO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	
HV-251F103B	C-7	2	A	P	1	GB	MO	X	C	LJ	LJ	2Y	-	-	
PSV-25106B	F-7	2	A,C	A	3/4	RV	SA	-	O/C	RV LJ	RV LJ	RV 2Y	- -	- -	
SV-251F079B	G-5	2	B	A	1	GB	SO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	Rapid acting valve.
SV-251F080B	G-5	2	B	A	1	GB	SO	X	O/C	FS ST PI	FS ST PI	Q Q 2Y	- - -	- - -	Rapid acting valve.

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FUEL POOL COOLING & CLEANUP M-2153 Sheet 1

Valve Number	P&ID Coordinates	ASME Class	ASME Category	Active/Passive	Valve Size (inches)	Valve Type	Actuator Type	Remote Position Indication	Safety Position	Tests Required	Tests Performed	Test Frequency	CS/RO Justification	Relief Request(s)	Remarks
253001	C-3	3	B	A	10	GT	MA	-	C	FS	FS	Q	-	RR33	
253018A	A-4	3	B	A	6	GB	MA	-	C	FS	FS	Q	-	RR33	
253018B	A-5	3	B	A	6	GB	MA	-	C	FS	FS	Q	-	RR33	
253021	C-2	3	B	A	16	GT	MA	-	O/C	FS	FS	Q	-	RR33	
253070A	A-7	3	B	A	8	GB	MA	-	O/C	FS	FS	Q	-	RR33	
253070B	A-7	3	B	A	8	GB	MA	-	O/C	FS	FS	Q	-	RR33	
253071A	B-5	3	C	A	8	CK	SA	-	O	FS FS	PS FS	O SD	-	RR09 RR09	Open test only.
253071B	B-6	3	C	A	8	CK	SA	-	O	FS FS	PS FS	O SD	-	RR09 RR09	Open test only.
253090A	A-6	3	B	A	2	GB	MA	-	O	FS	FS	Q	-	RR33	
253090B	A-5	3	B	A	2	GB	MA	-	O	FS	FS	Q	-	RR33	
253091A	A-6	3	B	A	2	GT	MA	-	O	FS	FS	Q	-	RR33	
253091B	A-5	3	B	A	2	GB	MA	-	O	FS	FS	Q	-	RR33	
253500	A-7	3	B	A	2	GB	MA	-	O	FS	FS	Q	-	RR33	
253501	A-5	3	B	A	2	GB	MA	-	O	FS	FS	Q	-	RR33	

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REFUELING OUTAGE TEST JUSTIFICATION NUMBER 21

REFUELING OUTAGE TEST JUSTIFICATION HAS BEEN WITHDRAWN

2RJ21-1

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RELIEF REQUEST NUMBER 33

System	P&ID	Valve Number	Class
RHR	M-2151	251060	2
RHR	M-2151	251070	2
FPC	M-2153	253001	3
FPC	M-2153	253021	3
FPC	M-2153	253070A	3
FPC	M-2153	253070B	3
FPC	M-2153	253018A	3
FPC	M-2153	253018B	3
ESW	M-2153	253090A	3
ESW	M-2153	253090B	3
ESW	M-2153	253091A	3
ESW	M-2153	253091B	3
ESW	M-2153	253500	3
ESW	M-2153	253501	3

Category: B

Function: Supply cooling water and makeup water to Spent Fuel Pool following loss of normal Fuel Pool Cooling

Impractical Test Requirement: Exercise valves once per 92 days.

Basis for Deferment: Each RHR Fuel Pool Cooling Assist line (1 line per unit) contains six (6) manual valves (251060, 251070, 253001, 253021, and 253070A/B). Each of the ESW Fuel Pool Makeup lines (2 per unit) contains three (3) manual valves (253090A/B, 253091A/B, 253500 and 253501). Each of the Fuel Pool Cooling normal supply lines to the Fuel Storage Pool contains one (1) manual isolation valve (253018A/B). The accidents

RELIEF REQUEST NUMBER 33 (cont'd)

defined in the FSAR do not consider these manual valves or the tie between the RHR or the ESW and Fuel Pool Cooling and Cleanup systems. The accidents defined in the FSAR are consistent with the guidance given in Regulatory Guide 1.70 and the Standard Review Plan. The FSAR does state that the ESW system provides a Seismic Category I source of makeup water to the spent fuel pool; therefore, these valves are important to safety and should be tested periodically. An exercise testing frequency of once each fuel cycle for each of the aforementioned manual valves in the RHR, ESW and FPC systems is considered to be commensurate with their importance to safety. Manual stroking of these valves any more frequently than that would not add any substantial safety benefit and would increase personnel exposure.

Since the beginning of plant operations, the subject manual valves have proven to be highly reliable. No difficulty has ever been observed with their operation or maintenance, and no significant maintenance has been required. The only maintenance ever needed for any of the manual valves in ESW System (12 total between the two units) was the repacking of the stem of one valve (153091B) in 1990. Maintenance on the manual valves in the FPC System (12 total between the two units) consisted of only one valve repack on 153070A in 1989. The RHR System (4 total between the two units) showed that each valve has been repacked once since the beginning of plant operations. Other than the valve repacks mentioned above, there has been no evidence of any of the valves failing to open or close. From this data, we conclude that these valves have a very low likelihood of failure.

Additionally, exercising each 92 days would result in a hardship without a compensating increase in the level of quality and safety for those valves in the Fuel Pool Cooling, RHR and ESW Systems. The FPC system would have to be shutdown completely to stroke valve 253001 closed and would have to be placed in a restricted flow configuration to stroke either valve 253018A or B. Exercise testing of the 251070, RHR to FPC return valve, may cause the RHR Division I system to depressurize. The Division I of the RHR might have to be removed from service while refilling and venting of the discharge LPCI injection lines is accomplished. Exercising of



RELIEF REQUEST NUMBER 33 (cont'd)

the ESW System valves introduces the potential for transferring ESW grade water into the Spent Fuel Pool. This is a hardship from a water quality standpoint.

Periodic exercising (opening and closing) of the manual valves in the ESW Fuel Pool Makeup Lines has been accomplished previously at a frequency of at least once each 3 or 4 years during the prior Code interval in conjunction with the Fuel Pool Cooling and the ESW System Pressure Tests. This exercising frequency is considered to be commensurate with the safety functions to be performed by the manual valves and is considered to be sufficient for valves of such simplicity and high reliability. In summary, exercising these manual valves once each fuel cycle provides an acceptable level of quality and safety.

Alternate Testing:

Exercise each manual valve at least once each fuel cycle. Additionally, the Fuel Pool Cooling System Pressure Test and the ESW System Pressure Test will continue to exercise the Fuel Pool Cooling and ESW valves once every 3 to 4 years.