

AP 1001

Three Mile Island Nuclear Station
Special Operating Procedure

SIDE 1

SOP No. 7-12 Rev. 1
(From SOP Log Index)

Unit No. 2

Date 5/6/79

NOTE: Instructions and guidelines in AP 1001 must be followed when completing this form.

1. Title CONDENSATE PUMP FLOW TEST THROUGH THE EMERGENCY FEED PUMPS

2. Purpose (include purpose of SOP)

To verify capability of the condensate pump to feed the S/G's through "windmilling" emergency feed pumps.

3. Attach procedure to this form written according to the following format.

A. Limitations and Precautions

1. Nuclear Safety
2. Environmental Safety
3. Personnel Safety
4. Equipment Protection

B. Prerequisites

C. Procedure

4. Generated by TSPG

Date 5/5/79

5. Duration of SOP - Shall be no longer than 90 days from the effective date of the SOP or (a) or (b) below - which ever occurs first.

(a) SOP will be cancelled by incorporation into existing or new permanent procedure submitted by M.A.T.

(b) SOP is not valid after _____
(fill in circumstances which will result in SOP being cancelled) M.A.T.

6. (a) Is the procedure Nuclear Safety Related?

If "yes", complete Nuclear Safety Evaluation. (Side 2 of this Form) Yes No

(b) Does the procedure affect Environmental Protection?

If "yes", complete Environmental Evaluation. (Side 2 of this Form) Yes No

(c) Does the procedure affect radiation exposure to personnel?

Yes No

NOTE: If all answers are "no", the change may be approved by the Shift Supervisor. If any questions are answered "yes", the change must be approved by the Unit Superintendent.

7. Review and Approval

Approved - Shift Supervisor

Reviewed - List members of PDRG contacted

NACU Blocker 5/9/79

Date

R.C. Johnson 5/6/79NRC 5/5/79W.B.D. Beidler 5/5/79

Date

J.W.T. Dangel 5/9/79

Date

12/7

Date

J.T. Kunkle 5/9/79

Date

Approved - Unit Superintendent

Date

8. SOP is Cancelled

Shift Supervisor/Shift Foreman

Date

"EVALUATION"

AP1001

Three Mile Island Nuclear Station

SIDE 2

SOP No.

1. Title _____

2. Nuclear Safety Evaluation

Does this SOP:

- (a) increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety? yes no
- (b) create the possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report? yes no
- (c) reduce the margin of safety as defined in the basis for any technical specification? yes no

Details of Evaluation: (Explain why answers to above questions are "no". Attach additional pages if required.)

Evaluation By _____

Date _____

3. Environmental Impact Evaluation

Does this SOP:

- (a) possibly involve a significant environmental impact? yes no
- (b) have a significant adverse effect on the environment? yes no
- (c) involve a significant environmental matter or question not previously reviewed and evaluated by the N.R.C. yes no

Details of Evaluation

Evaluation By _____

Date _____

*NOTE: If these questions are "yes", the change must receive N.R.C. approval.

4. Review (PORC review of evaluation is required only when requested by the Station Superintendent/Unit Superintendent; if this review is made, the PORC must consist of two off-site members.)

1. _____

2. _____

Off-Site Member(s)

PORC Chairman Signature

Date _____

5. Approval

Station Superintendent/Unit Superintendent

Date _____

CONDENSATE PUMP FLOW TEST
THROUGH THE EMERGENCY FEED PUMPS

1.0 PURPOSE

- 1.1 The purpose of this test is to verify the capability of the condensate pumps to feed the S/G's through "windmilling" emergency feed pumps. See testing logic diagram (Attachment B).

2.0 REFERENCES

- 2.1 Operating procedure 2104-6.3 (Emergency Feedwater System).
2.2 Feedwater and Condensate Flow Diagram; Dwg. 2005.

3.0 PRECAUTIONS AND LIMITATIONS

- 3.1 Ensure an adequate oil supply to the Emergency Feed Pump bearings in accordance with the following indication:
3.1.1 For the turbine driven EFP #1, check the oil level in the two stand pipe sump level indicators and the three bubblers.
.1.2 For the motor driven EFP's #2A and 2B, check the two "bullseye" oil supply indicators on the motor ends and the two bubbler indicators on the pump ends.
3.1.3 Maintain OTSG "A" Level \leq 400" during this flow test.

4.0 PREREQUISITES

- 4.1 Condensate pump feeding OTSG "A" through a windmilling condensate booster pump and main feed pump. Level is being maintained using the start up flow control valve, FW-V25A.
4.2 Flow indicators are installed and operational at CO-FE-7615, 7616, and 7617 and an operator is available to monitor the flow indicators.

5.0 SPECIAL EQUIPMENT

- 5.1 None.

6.0 METHOD

- 6.1 Valve Line Up.
6.1.1 Perform the following line up:

<u>VALVE NO.</u>	<u>DESCRIPTION</u>	<u>AS-FOUND POSITION</u>	<u>REQUIRED TEST POSITION</u>	<u>TEST POSITIONER INITIALS</u>	<u>RESTORATION POSITIONER INITIALS.</u>
EF-V5A	EF-P-1 Discharge to RC-H-1A	_____	CL	_____	_____
EF-V5B	EF-P-1 Discharge to RC-H-1B	_____	CL	_____	_____
EF-V11A	EF to RC-H-1A, control valve	_____	CL	_____	_____
EF-V11B	EF to RC-H-1B control valve	_____	CL	_____	_____
EF-V12B	EF to RC-H-1B	_____	CL	_____	_____
EF-V32A	EF-V12A Bypass	_____	CL	_____	_____
EF-V32B	EF-V12B Bypass	_____	CL	_____	_____
EF-V33A	EF-V11A Bypass	_____	CL	_____	_____
EF-V33B	EF-V11B Bypass	_____	CL	_____	_____
EF-V4A	EF-P-2A Discharge Isolation	_____	OP	_____	_____
EF-V4B	EF-P-2B Discharge Isolation	_____	OP	_____	_____
EF-V10	EF-P-1 Discharge Isolation	_____	LO	_____	_____
EF-V12A	EF to RC-H-1A	_____	OP	_____	_____
CO-VB7	EF Pump Suction Header Isolate	_____	OP	_____	_____

6.1.2 In addition to 6.1.1, verify valve position listed in Appendix A. Notify Shift Supervisor of valves which are not positioned as listed before changing any valve position.

6.2 Perform the flow test as follow:

NOTE: On each flow path test, record flow path(s), flow indicator reading(s) and EF-V11A position. Use Attachment A to record results.

NOTE: If flow is not verified, reopen valve which was feeding the S/G level so level will not decrease. Try to determine cause for flow blockage. If none is found, discontinue the investigation and proceed to test the next flow path.

6.2.1 Slowly open EF-V11A to establish flow to "A" OTSG to minimize thermal shock to the auxiliary feed nozzle. At the same time, start closing FH-V25A. Verify flow on CO-FE-7616. Complete transfer of flow by closing FH-V25A. Throttle EF-V11A to maintain S/G level constant.

6.2.2 If S/G level decreases (with EF-V11A wide open), go to 6.2.9.

6.2.3 Record results.

6.2.4 Open EF-VSA and Close EF-V4A. Verify flow on CO-FE-7615. Throttle EF-V11A as necessary to maintain S/G level constant.

6.2.5 If S/G level decreases (with EF-V11A wide open), go to 6.2.10.

6.2.6 Record results. Go to 6.2.11.

6.2.7 If S/G level decreases (with EF-V11A wide open), go to 6.2.11.

6.2.8 Record results. Go to 6.2.11

6.2.9 Open EF-VSA. Verify flow on CO-FE-7615. Throttle EF-V11A as necessary to maintain S/G level. Go to 6.2.5.

6.2.10 Open EF-V5B. Verify flow on CO-FE-7617. Throttle EF-V11A as necessary to maintain S/G level. Go to 6.2.7.

2.11 Terminate test by doing the following:

- A. Slowly close EF-V11A. At the same time, open FK-V25A. Verify flow on B&H SP-7A-FE. Complete transfer of flow by closing EF-V11A. Throttle FH-V25A to maintain S/G level constant.
- B. Restore the valve line-up to the previous plant operating conditions by aligning the valves in accordance with the "As Found Position" column of the valve line up in section 6.1.1 and by comparing the "As Found" to "Required" position columns in Appendix A to ascertain if additional restoration is required.

APPENDIX A

Valve No.	Description	AS FOUND POSITION	REQUIRED Position	Initials
EF-V18	EF-P-1 Discharge Vent	_____	CL	_____
EF-V19	EF-P-2 Discharge Vent	_____	CL	_____
EF-V20	EF-U-1 Bearing Inlet Test Conn.	_____	CL	_____
EF-V21	EF-U-1 Bearing Outlet Test Conn.	_____	CL	_____
EF-V22	EF-P-1 Bearing Outlet Test Conn.	_____	CL	_____
EF-V23A	EF-P-2A Bearing Inlet Test Conn.	_____	CL	_____
EF-V23B	EF-P-2B Bearing Inlet Test Conn.	_____	CL	_____
EF-V24A	EF-P-2A Bearing Outlet Test Conn.	_____	CL	_____
EF-V24B	EF-P-2B Bearing Outlet Test Conn.	_____	CL	_____
EF-V25	EF-U-1 Bearing Drain	_____	OP	_____
J28	EF-U-1 Bearing Inlet Isolation	_____	OP	_____
EF-V29A	EF-P-2A Bearing Inlet Isolation	_____	OP	_____
EF-V29B	EF-P-2B Bearing Inlet Isolation	_____	OP	_____
EF-V30	EF-P-1 Bearing Outlet Drain	_____	OP	_____
EF-V31A	EF-P-2A Bearing Outlet Drain	_____	OP	_____
EF-V31B	EF-P-2B Bearing Outlet Drain	_____	OP	_____
CO-V125	Suction to EF-P-1	_____	LO	_____
CO-V22A	CO Storage Tanks to EF	_____	LO	_____
CO-V22B	CO Storage Tanks to EF	_____	LO	_____

APPENDIX A

Valve No.	Description	AS FOUND POSITION	REQUIRED Position	Initials
EF-V3A	EF-P-2A Discharge Pressure Inst.	_____	OP	_____
EF-V3B	EF-P-2B Discharge Pressure Inst.	_____	OP	_____
EF-V3C	EF-P-1 Discharge Pressure Inst.	_____	OP	_____
EF-V7A	EF-P-2A Recirc to Condenser.	_____	CL	_____
EF-V7B	EF-P-2B Recirc to Condenser	_____	CL	_____
EF-V7C	EF-P-1 Recirc to Condenser	_____	CL	_____
EF-V8A	EF-P-2A Recirc to CO-T-1A	_____	OP	_____
EF-V8B	EF-P-2B Recirc to CO-T-1A	_____	OP	_____
EF-V8C	EF-P-1 Recirc to CO-T-1A	_____	OP	_____
EF-9	EF-P-1, 2A and 8 Inlet to CO-T-1A	_____	OP	_____
EF-V14A	"A" Em. Feedwater to RC-H-1A Drain	_____	CL	_____
EF-V14B	"B" Em. Feedwater to RC-H-1B Drain	_____	CL	_____
EF-V15A	"A" Em. Feedwater to RC-H-1A Drain	_____	CL	_____
EF-V15B	"B" Em. Feedwater to RC-H-1B Drain	_____	CL	_____
EF-V16	Em. Feedwater Pump Disc. Head. Dr.	_____	CL	_____
EF-V17	Em. Feedwater Pump Disc. Head. Dr.	_____	CL	_____

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VALVE NO.	DESCRIPTION	AS FOUND POSITION	REQUIRED POSITION	INITIALS
J-V85	Condensate to EF		LO	
J-V83A	EF-P-2A Suction		LO	
J-V83B	EF-P-2B Suction		LO	
J-V98A	CO-T-1A Isolation		LO	
J-V98B	CO-T-1B Isolation		LO	
F-V38	EF-P-1 Recirc. Line Min. Flow Orifice Bypass		LC	
F-V39	EF-P-2A Recirc. Line Min. Flow Orifice Bypass		LC	
F-V40	EF-P-2B Recirc. Line Min. Flow Orifice Bypass		LC	
F-V-36	FW to SG 8 DRN.		CL	
F-7	FW to SG 8 DRN		CL	
F-V-501	EF-PI 2001 Isol		OP	
F-V-502	EF-PT 1150 Isol		OP	
F-V-503	Inst. ORN		CL	
F-IV-504	EF-PI 2002 Isol	--	OP	
F-IV-505	EF-PT 1147 Isol	--	OP	
F-IV-506	Inst ORN		CL	
F-IV-507	EF-PI 2003 Isol		OP	
F-IV-508	EF-PT 826		OP	
F-IV-509	Inst DRN		CL	

Logic Diagram