

AP 1001

Form 1001-8

Three Mile Island Nuclear Station

Special Operating Procedure

SIDE 1

SOP No. 3-77-Rev 2
(From SOP Log Index)NOTE: Instructions and guidelines in AP 1001
must be followed when completing
this form.Unit No. 2Date 4/14/79

1. Title

Backup Pressurizer Pres/Level And

2. Purpose (include purpose of SOP)

To provide backup pressurizer pressure and level for Control Room in the event that the primary instrument fails.

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

J. Brunner / H. Wilson / J. M. Date 4/14/79

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

(a) SOP will be cancelled by incorporation into existing or new permanent procedure submitted by N/A ☐(b) SOP is not valid after N/A ☐

(fill in circumstances which will result in SOP being cancelled)

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

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

(b) Does the procedure affect Environmental Protection?

If "yes", complete Environmental Evaluation. (Page 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 PORC contacted

Approved - Unit Superintendent

8. SOP is Cancelled

Shift Supervisor/Shift Foreman

Date

"EVALUATION"

AP-1001

Three Mile Island Nuclear Station

SIDE 2

Figure 1001-8

Nuclear Safety/Environmental Impact Evaluation

SOP No. _____

1. Title _____

2. Nuclear Safety Evaluation

Does this SOP:

- * (a) increase the probability of occurrence of 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 Superintendents. If this review is made, the PORC must consist of two off-site members.)

1. _____

2. _____

Off-Site Members

PORC Chairman Signature

Date

5. Approval

Station Superintendent/Unit Superintendent

133 031
Date

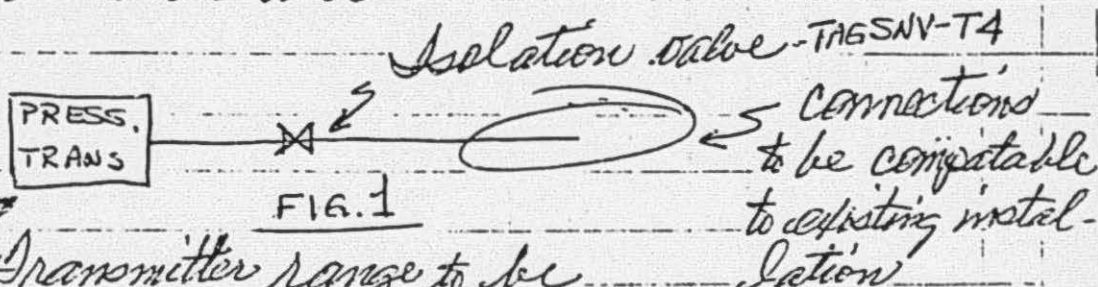
Backup Pressurizer Level/Pressure Indication

Background

A test gauge has been installed for backup pressurizer level and pressure indication per E-37. In order to correlate data achieved via readings at this location to the control room pressurizer level recorder, this procedure will hook up a pressure transmitter and recorder to trend data for later correlation.

Pre-requisite

- ① Prefabricate the following outside the radiation area:



- ① Transmitter range to be compatible to system pressure. (0 - 1000 psi)
- ② Capsule to withstand at least 2000 PSIG.
- ③ Transmitter accuracy at least $\frac{1}{4}\%$
- ④ Pre-cal to at least 100 PSIG over max expected system pressure, document results.

Pre-Req New installation to be pre-filled and vented.

Limits and Precautions:

- ① Initiate appropriate LWP's, and comply with their requirements.
- ② Brief Personnel prior to job, 2nd required.

Procedure

- REV 2
- ① Check shut CA-V-10, CAV-1, CA-V-3, CA-V6, SNV-T1, SNV-T2, SNV-T3, SNV-T4, SNV-T5.
 - ② Insure hydro pump and its suction and discharge lines are filled with water.
 - ③ Open SNV-T1 and SNV-T2.
 - ④ Open CA-V4 and CA-V10.
 - ⑤ Start hydro pump and raise discharge pressure to greater than primary system pressure as read on the test gauge.
CAUTION: Do not exceed an addition rate of greater than 1/4 gpm. Total volume addition should not exceed 80 gallons.
 - ⑥ Crack open SNV-T3 and pump for approximately 15 minutes to the pressurizer steam space.
 - ⑦ Shut SNV-T3 and stop the hydro pump.
 - ⑧ Shut SNV-T1, SNV-T2, CA-V-1 and CA-V-10.
 - ⑨ Connect new installation as below:

CAUTION: By slowly venting the system thru test rig to a poly bottle equipped with filters.

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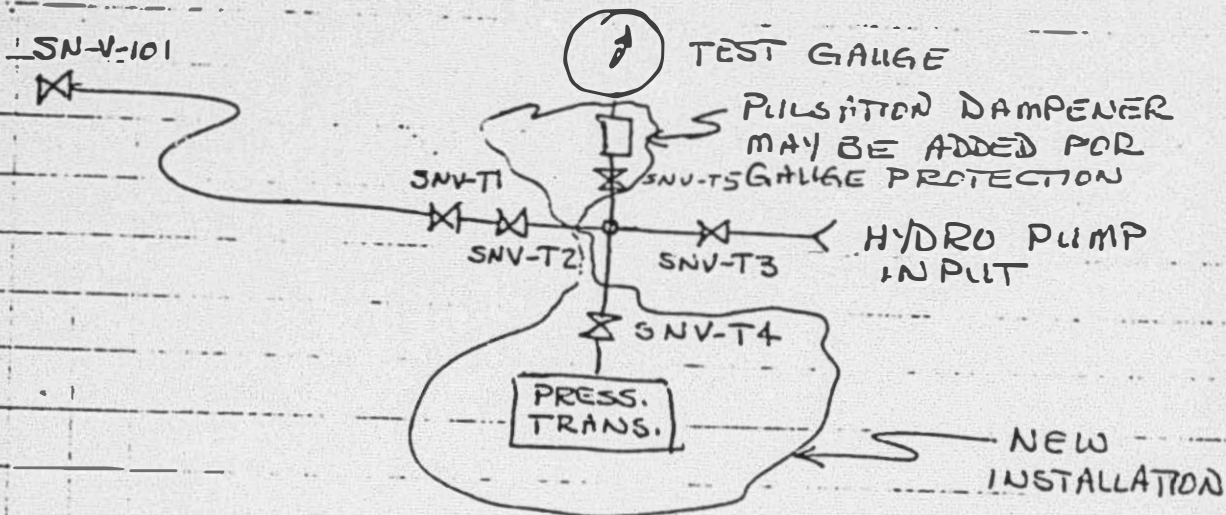


FIG 2

- ⑩ Open SNV-T3 and SNV-T4 and test the new installation to 1800 PSIG. ^{hydro} Close SNV-T3 and SNV-T4 and stop pump when complete. ^{hold pressure 10 mins}
- ⑪ Connect transmitter output to an analog recorder. Energize the system.
- ⑫ (A) Open SNV-T1, SNV-T2, SNV-T4, SNV-T5
- ⑬ (B) PERFORM VALVE LINEUP APPENDIX "A"
- ⑭ * OPEN CA-V-10 ^{CAUTION: ONLY ONE VALVE CAUTION OR CAUS WILL BE OPEN AT A TIME}
- ⑮ Open CA-V-1 and CA-V-3 alternately and correlate transmitter output to test gauge reading. Close CA-V-1, CA-V-3, and CA-V-10.
- ⑯ When alternate level indication is required as determined by shift supervisor, perform the value lineup per appendix "A" and repeat Steps 13 and 14.
- ⑰ Refer to the current revision of Z-50 for ΔP to level correlation.

SYSTEM Back-up trace level unit
 LOCATION Radio-Chem Lab
 TOLERANCE 0.02V ENG. UNIT
1/4 (0.25) OR
 % OF SPAN
 MAX. ERROR OF % OF SPAN 0.075%
 OR
 MAX. ERROR ENG. UNITS .006 VDC
 STATIC PRESSURE ERROR _____

INST. NO. _____
SERIAL NO. 106441
MODEL OR TYPE 1153071141110P8
Press. Transducer
FUNCTION Press. Control
RANGE 0 - 1100 PSIG
OUTPUT 4-20 mA, 2 to 10V
ACTION Trans.

SPECIAL DATA

[illegible]

REMARKS. 35.00 V.D.C. power supply
500 Ω Load, V_{OC} out read across 500 Ω

EQUIP.	<u>H0130</u>	SER. NO.	<u>11858</u>	LAST CAL.	<u>4-6-79</u>	CAL. FREQ.	<u>Yrly</u>
EQUIP.	_____	SER. NO.	_____	LAST CAL.	_____	CAL. FREQ.	_____
EQUIP.	_____	SER. NO.	_____	LAST CAL.	_____	CAL. FREQ.	_____
EQUIP.	_____	SER. NO.	_____	LAST CAL.	_____	CAL. FREQ.	_____
EQUIP.	_____	SER. NO.	_____	LAST CAL.	_____	CAL. FREQ.	_____
EQUIP.	_____	SER. NO.	_____	LAST CAL.	_____	CAL. FREQ.	_____

PERFORMED BY D. J. Kuntz DATE 4-13-77 APPROVED BY M. H. [Signature] DATE 4-13-77

APPENDIX A

VALVE LINE UP

Rev 2

SNV-T 5 OPEN

SNV-T 4 OPEN

SNV-T 3 SHUT

SNV-T 2 OPEN

SNV-T-1 OPEN

SNV-101 OPEN

SNV-6 CLOSED

SNV-7 CLOSED

SNV-161 CLOSED

SNV-174 CLOSED

SNV-110 CLOSED

SNV-4 OPEN

SNV-109 CLOSED

SNV-5 CLOSED

SNV-1 OPEN

SNV-2 CLOSED

SNV-3 CLOSED

Rev 2

133 036