

AP 1001

Three Mile Island Nuclear Station
Special Operating Procedure

SIDE 1

Form 1001-8

SOP No. 2-75
(From SOP Log Index)

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

Unit No. 2
Date 4-7-79

NRC

1. Title Increase letdown flow by raising letdown cooler temp & bypassing letdown heat exchanger.

2. Purpose (include purpose of SOP) To increase letdown flow by heating up the primary side of the letdown flow HX. To increase make-up to K temp to facilitate

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

Attached

Generated by Al Liker Date 4/7/79

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 NA
- (b) SOP is not valid after NA

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

NRC 4/7/79 Approved - Shift Supervisor B. Mehl 4-7-79

AIARRA 4/16/79 Reviewed - List members of PORC contacted James O. Potts 4/2/79

W. Schmitt 4/17/79 R.W. Bensch 4-7-79

W. Schmitt 4/17/79 R. P. ... 4-7-79

W. Schmitt 4/17/79 K.P. ... 4/17/79

W. Schmitt 4/17/79 J. ... 4/17/79

8. SOP is Cancelled

Shift Supervisor/Shift Foreman

Date

"EVALUATION"

AP-1001

Three Mile Island Nuclear Station

SIDE 2

Figure 1001-B

Nuclear Safety/Environmental Impact Evaluation

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 Members

PORC Chairman Signature

Date

5. Approval

Station Superintendent/Unit Superintendent

132-075

Date

PURPOSE: To air purging " " " " the letdown piping and increase letdown flow
To raise Make-Up Tank Temperature to facilitate degasification

Limits and Precautions

1. Do not exceed 190°F on the outlet of either Letdown Heat Exchanger
2. Maintain Intermediate Clg Flow at 400 gpm gpm or greater (Minimum Recirc 50 gpm, Minimum Flow to RC Pumps 300 gpm)
3. Allow for stabilization of parameters after each jogging evolution on IC-VIA and IC-VIB.

132 076

4. Do not reopen Demineralizer inlet valves
• MU V6A and 6B until combined cooling outlet

is below 135°F .

5. Should a rapid increase in letdown flow be experienced immediately open IC VIA and IC VIB cooling valves. Monitor let down flow chr outlet temperatures (994 and 995 on the computer) and intermediate cooling outlet temperatures (455 and 456 on computer)

Prerequisites

1. High Temperature interlock w/ MU V 376 defeated and properly logged in jumper log.

SIGNATURE / DATE

2. Demineralizer Inlet Valves MU V 6A & 6B shut and labeled.

SIGNATURE / DATE

3. Nuclear ~~Services~~ River Water Available

SIGNATURE / DATE

4. RCP Total Intermediate Clog ^{LOW} Flow, ^{TRIP} Low ~~alarm~~ ^{one} defeated and properly logged in jumper log.

SIGNATURE / DATE

5. Minimum Seal Injection available to each RCP

SIGNATURE / DATE

132 078

Set up the following points on a trend block at 1 min
interval prior to existing procedure.

0455 IC Letdown Cooling Outlet A Temperature
0456 IC Letdown Cooling Outlet B Temperature
0915 Intermediate Pump Discharge Temp.
0996 Letdown Clr Inlet
0995 Letdown Clr 1A Outlet
0994 Let Clr 1B Outlet
0161 Make Up Tank Temperature
0347 Make up Tank Level
1682 Prg Level
0159 Letdown Pressure
0394 RCS Loop A
0398 RCS Pressure
0460 RCS Pressure
0158 Make-up pump suction header
Intermediate Clg Suction Pressure
0452 RCP IC Clg outlet Temp

2. Shut and label the demineralizer inlet
valve: MU VCA and MU 6B

132 079
SIGNATURE / DATE

3. Verify flow has not been interrupted by
observing the flow indication on the control room
monitor and make-up tank level.

4. Align cooling to one heat exchanger to achieve a maximum of 130°F on the letdown Clr outlet.

5. Utilizing gag control, throttle shut the intermediate cooling inlet valve until a positive ΔT is established across the the heat exchanger not selected in the step above.

DO NOT reduce IC Total Flow to less than 400 gpm.

6. Slowly increase letdown Clr outlet temperature to approximately 160°F . DO NOT exceed 190°F .

7. Monitor Make-up Tank Temperature - DO NOT EXCEED 150°F . DESIGN Temperature 200°F .

8. Monitor Intermediate Clg Pump discharge pressure to ensure no oscillations are observed.

9. Once a satisfactory flow is achieved in one cooler, ~~keep the other coolers~~ repeat the above steps 4-8 ~~for the other coolers~~. Return to 130°F on the outlet of each heat exchanger.

10. To determine if additional flushing is required:
- a) Shut MV 2A and observe flow.
 - b) Re-open MV 2A
 - c) Shut MV 2B and observe flow, then re-open MV 2B.
 - d) Annotate the Trend recorder following each step
 - e) Throttle IC V1A and IC V1B to maintain beddown HX outlet temperature at 130°F. This increase in flow will precipitate fine solids.

11. Check for blockage down stream of the beddown HX's by performing the following sequence of valve operations

Note: Annotate the Trend Chart for each valve operation and ensure enough time is provided to stabilize parameters between each step. 5 minutes is considered minimum.

a) Open MV 4 ; Shut MV 5

b) Open MV 5 ; Shut MV 4

c) Re-open MV 4

132 081

d) chde open MU-VIIA Shut MU-VIIB

e) Open MU-VIIB Shut MU-VIIA

f) ke open MU-VIIA