

AP 1001

Figure 1001-B

Three Mile Island Nuclear Station
Special Operating ProcedureSIDE REV 2SOP No. 2-70
(From SOP Log Index)Unit No. 2Date 4/9/79

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

NRC

1. Title RCS Sampling - Manual

2. Purpose (Include purpose of SOP)

To collect an RCS sample manually

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

(See attached.)

B. Prerequisites

C. Procedure

4. Generated by Procedure Effort Group Date 4/9/79

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

(a) SOP will be cancelled by incorporation into existing or new permanent procedure submitted by _____ ☐(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. (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 BW Bessel 4-9-79Reviewed - List members of PORC contacted RW Bessel 4-9-79RP Warren 4-9-79W.P. Giesche 4-9-79Approved - Unit Superintendent [Signature] 4/9/79

8. SOP is Cancelled

Shift Supervisor/Shift Foreman

Date

RCS Sampling (Manual)

A. Initial Condition (At discretion of the Shift Supervisor)

1.0 1 RCS pump operating, steam bubble in Pzr.

2.0 This procedure does not address sample analysis, or shipment off-site to be analyzed.

3.0 A sampling demonstration will be performed with people dressed as actually required and using the actual sampling equipment. This will be observed by ALARA representative.

4.0 Sample sink ventilation will be on and Fan #26 will be secured.

5.0 After rollin shielding is installed, H.P. will survey and add any other lead blankets necessary.

6.0 Sodium Thiosulfate will be added to the waste container and small amounts poured into sample sink for gaseous Iodine control. 132 021

7.0 Set up communications between units #1

H.P. area + Units #1 + #2 control room. Make sure Unit #1 Aux Bldg Sump is not being processed into waste.

~~For Bldg area with sample lines we cleared of personnel~~

B. 2.1 Enter sampling room and set up shielding according to Figure #4 and install other sampling equipment.

Check valve lineup as necessary, to recirculate through sample cooler.

Install RAM's + take readings.

2.1 @ Check ^{Remote Pwr level} ~~Hot~~ Gauge & indication.

2.2 H.P. enter and perform survey for further shielding and makeup R.W.P.

2.3 Place shutdown sampling line on recirculation for 45 minutes to 1 hour by opening CA-V 6 + CA-V 10 by request from the Unit #2 Control room.

2.4 Re-evaluate the dose rates using RAM's after 30-40 minutes of recirc.

2.5 Sampling using 3 persons.

2.5.1 First person enter sampling room and flush the shutdown sampling line for 15 seconds, (to 300 ml line on bench) then move poly tubing, (leaving it in sink) cap bottle, and leave the sampling room. [MAN 33]

132 022

2.5.2 Re-evaluate doses for sampling
using RAM readings during flush.

2.5.3 Second person enter room carrying
sample bottle, ^{using tongs} open SN-V 87, fill
sample bottle ^{above} to line marked on
bottle, shut SN-V 87, cap bottle
and place ^{in lead pig on cart (SEE FIGURE 7)} ~~on lead pig~~ and
leave sampling room. [MAN 4]

2.5.4 Secure recirculation by shutting
CA-V 6 and CA-V 10 from control
room

2.5.5 Third person enter sampling room
and pull cart with lead pig on it
to the analysis lab. [MAN 5]

C. SPECIAL PRECAUTIONS

- 1.0 All personnel minimize exposures by standing in low radiation fields when possible.
- 2.0 ~~1.0~~ Persons doing sampling should be on scott air packs and atleast three pairs of rubber gloves.
- 3.0 ~~2.0~~ Persons doing flush and sampling should use lead shield.
- 4.0 ~~3.0~~ Persons drawing sample should wear a lead lined glove when holding sample.
- 5.0 ~~4.0~~ Other sampling personnel wait outside the sampling ^{in hand} ~~area~~ ^{room} until needed.
- 6.0 ~~5.0~~ Remove all TLD's from HP area, not being used, while sampling.
- 7.0 ~~6.0~~ Survey the radiation field in HP area during recirculation
- 8.0 ~~7.0~~ Have scott air packs available for people in HP area of Unit #1.
- 9.0 ~~8.0~~ Persons ^{1,2,3,4 & 5 MUST} ~~wear~~ wear extremity badges as well.
- 10.0 ~~9.0~~ Survey after recirculation in HP area.

11.0 Hydrogen recombiner personnel

- 11.1 Have scott air pack bottles available for all personnel.
- 11.2 Be in communications with H.P. lab in Unit #1 during sampling.
- 11.3 Have H.P. technician ^{supporting} ~~with~~ them. _{Obtain surveys for future use}
- 11.4 Remain as close to the South wall as possible during sampling + recirculation.

- 12.0 Evacuate all other personnel from Unit #1 Aux Bldg, H.P. area, + Spent fuel area except for those involved with monitoring and sampling.

13.0 All people in H.P. area be in full face respirators with charcoal filters.

14.0 An air sample during sampling should be taken in Unit #1 H.P. area.

15. After recirculation begins, take an ~~air sample~~ Radiation survey in the H.P. area of Unit #1.

16. Perform THD mapping survey in areas surrounding the Primary sampling room and analysis lab.

17. In case of flow to Aux. Bldg, sump monitor Aux Bldg ventilation for activity releases.

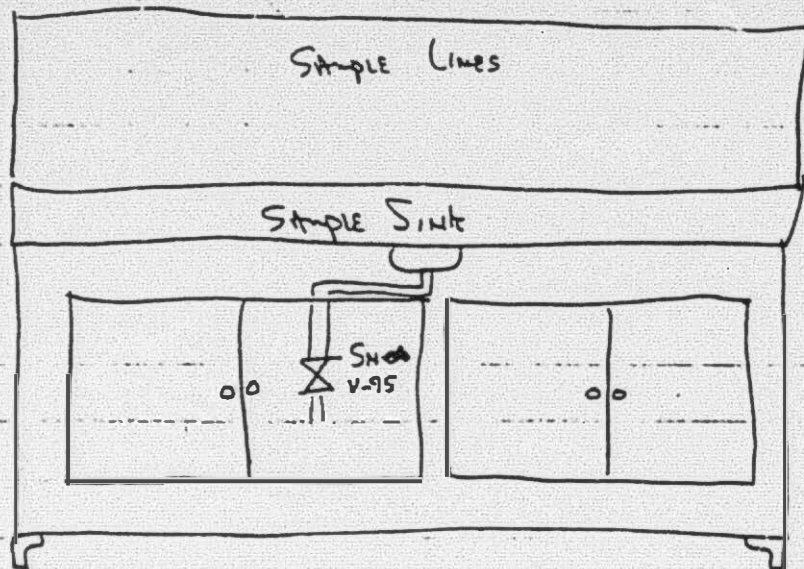


Figure 1

Figure 2

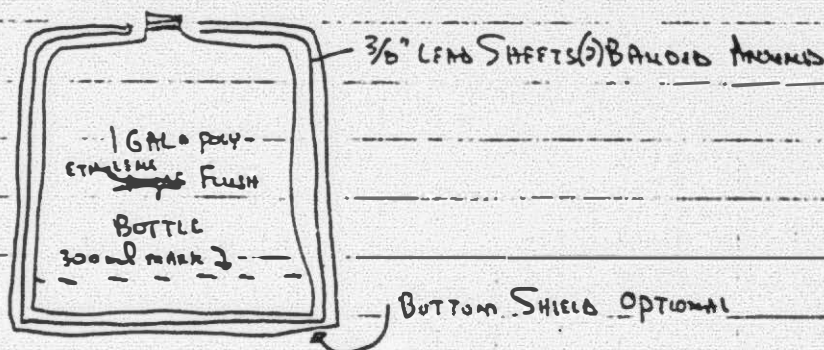
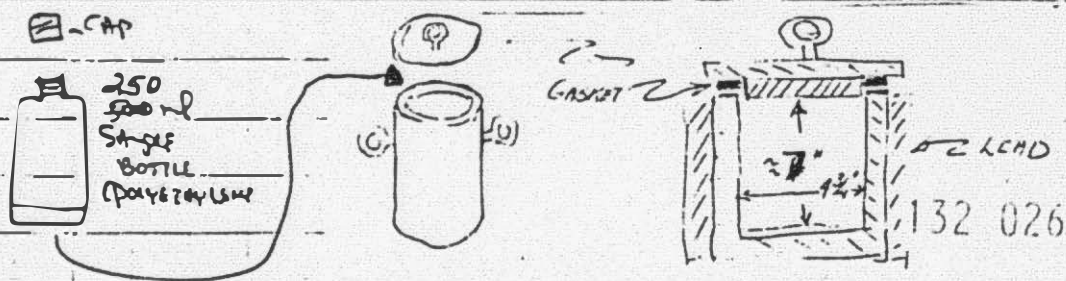
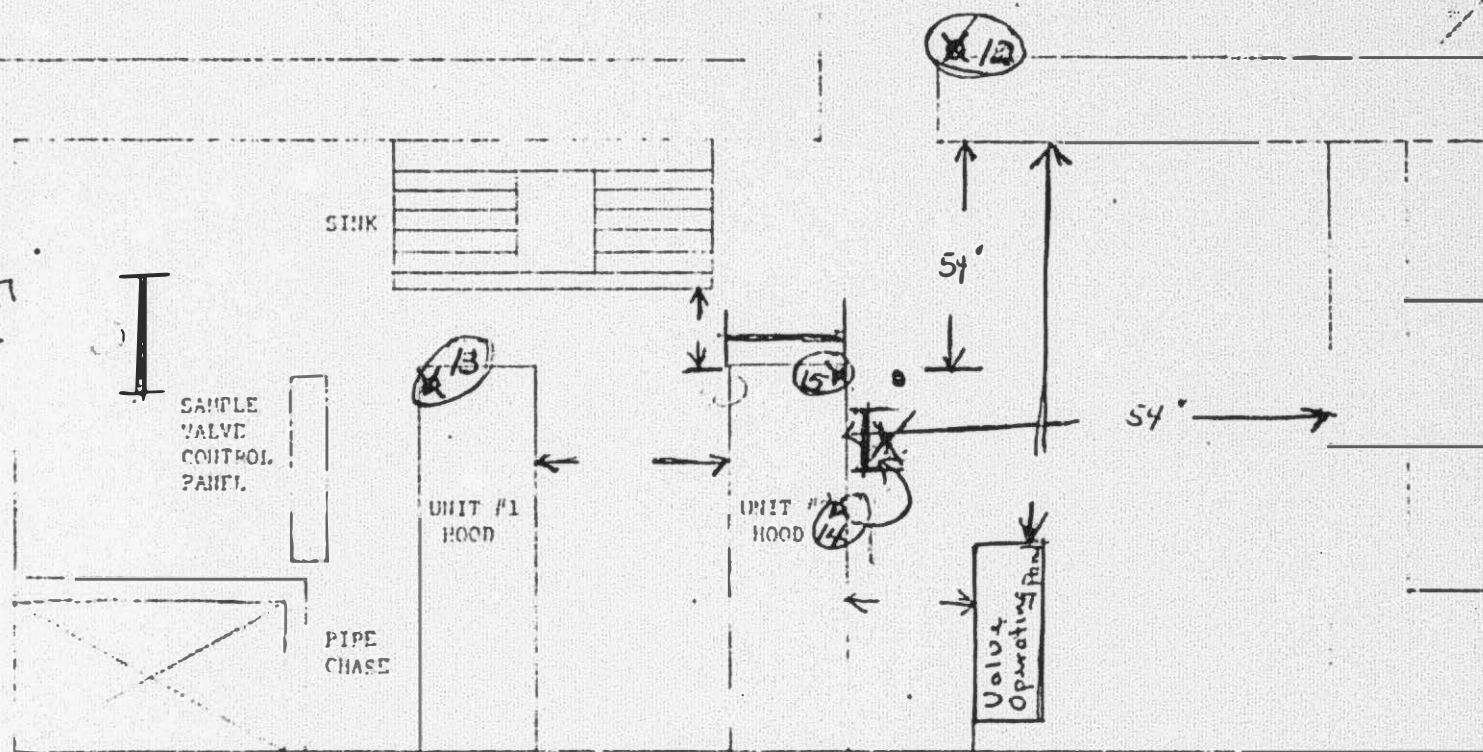


Figure 3



SURVEY AREA # 3

Figure 1



NUCLEAR SAMPLING ROOM FLEV. 306.10"

BEA-CAMPA READINGS IN 1948

(E) = BACKGROUND

$\textcircled{K} = \text{RAM's}$

 = rolling shields

X = Position of Surviving Person

DATE _____

ד"ר

INCIDENT

TECHNICIAN

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