

AP 1001

Three Mile Island Nuclear Station

SIDE 1 Kerni

Figure 1001-8

Special Operating Procedure

SOP No. 7108
(From SOP Log Index)

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

Unit No. 2

Date 4/26/79

NRC

1. Title Utilization of Reserve Air for Protection Air

2. Purpose (include purpose of SOP) To provide additional breathing air supply and flexibility!

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

attached

B. Prerequisites

C. Procedure

4. Generated by G E GILBERT Date 4/26/79

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. (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 A. L. W. Brannon Date 4/26/79
 Reviewed - List members of PORC contacted R P Warren (see telcon) 4/26/79 Date 4/26/79
J. S. Throckmorton Date 4/26/79
M. B. K. ... Date 4/26/79
 Approved - Unit Superintendent G A Kunder (see telcon) 4/26/79 Date 4/26/79

8. SOP is Cancelled _____ Date 133 197

General House

Utilize the Witz Service Air System as a breathing air supply in highly contaminated ^{areas}. This is accomplished by attaching qualified breathing air manifolds which include filter and moisture separators to existing in-plant Service Air Stations.

II Prerequisites

Date/initials

1. Valves lineup and "red tagged" in accordance with ATTACHMENT #1. _ / _ / _
2. Both IA Compressors and at least two (2) SA Compressors in satisfactory operation with all three receivers to supply a maximum of 24 men. One IA and at least two (2) SA Compressors with all receivers to supply max of 12 men. _ / _ / _
3. Close and "blue tag" for the Shift Supervisor administrative section.

Esther
4-26-79

a. SA-V18 Copy to Thursday _ / _ / _

b. SA-V229 Copy to Friday _ / _ / _

1. Verify that the system is properly set up and that the air receiver is properly vented to the atmosphere.

5. HP Swab Survey Air receiver blowdown pipe in tanks and analyze for I^{131} . HP supervisor to verify no detectable I^{131} prior to use

6. Service air system approved for use as breathing air by Safety Director in charge

7. Verify that air sample of compressor area is satisfactory per ATTACHMENT 2.

8. Verify that continuous air monitoring or sampling is being accomplished in accordance with ATTACHMENT 2 while using Service Air for breathing

II. PREREQUISITES (cont)DATE / TIME / INITIALS

9. Two safety men stationed at the appropriate control point with SCOTT Air Packs
10. Operator stationed at the compressor area with the ability to monitor all SA System Alarms.
11. Direct communications established between the operator at the compressors and the control point (safety men)
12. Direct communications established between the Shift Supervisor and the Safety men at the control point(s)
13. Direct communications established between control point and area in direct area

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PREREQUISITES (cont)

11. Obtain concurrence from the Shift Supervisor prior to initial use of Service Air for breathing air.

11

LIMITS AND PRECAUTIONS

1. Verify that service air receivers and discharge after cooler moisture separators are blown down at least one hour prior to initial use of service air for breathing air.

2. Verify that operations is blowing down above receivers and moisture separators once a shift while service air is being used for breathing.

3. Prior to using any service air connection for breathing air, verify that the air connection has been blown clear and tagged as clean.

4. Keep loose end of service air line to the breathing air manifold covered with poly bag until just prior to making connection at the service air station.

7. COMPRESSOR AREA OPERATIONS

- a. Remove workers from their work area and remove breathing apparatus as soon as possible if sampling or continuous air monitor indicates excess airborne activity in the compressor area or Service Air Press Low alarm occurs, or any operating IA or SA compressor trips.
- b. If a noticeable odor occurs in the breathing air leave work area and replace the two vapor/organic air filters in the breathing air manifold.
7. If there is a noticeable drop in pressure in the breathing air (> 5 psi) leave the work area and change HEPA filter in manifold.
5. Open vent valve and bleed down breathing air manifold filter and each time 33 203 manifold is placed in service.

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Inc. 1. 30-2106

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4-26-79

Maximum of 24 people supplied

with air for breathing air at

any time - Maximum of 12 people if
only one IA compressor and two SA
compressors are operating.

10. Communications established with those
in work area at all times.

11. Do not connect or disconnect individual
airlines at the portable breathing
air manifold in a radioactively
contaminated area.

II SPECIAL EQUIPMENT

1. Air line(s) to be used for blowing out local air connections only.
2. Filter cloth: such as pillow case, muslin cloth or equivalent for verifying service air connections clean.
3. Hose clamp(s) to secure filter cloth to blow hose for test blows.
4. Breathing air manifold(s) with necessary filters and hoses.
5. Knife to slit poly bag over male end of service air line to breathing air manifold

V PROCEDURE

See functional

1. Verify that all prerequisites in section II are completed / /
2. Obtain Shift Supervisor's Clearance to use Service air for breathing air each shift / /
3. Open the drain valve at the applicable service air station and drain any built up moisture. / /
4. Connect the blowdown line to the selected service air station and move loose end to an area where line can be blown clear with the minimum disturbance of contamination. / /

V. PROCEDURE

DATE TIME UNIT

5. Open supply valve at the service air station and allow continuous free blow of air for 5 minutes.

Using a filter cloth connected to the free end of the blow line and perform two(2) three minute test air blows to verify station is clear.

Connection is clear when two consecutive test blows show no visible particulate matter and only slight staining and moisture. Place dated tag at service air station to verify clear

6. Disconnect and remove the air blow line.

7. Carefully slit the poly bag surrounding the male fitting of the service air line to the manifold and connect the air line to the service air station. Station is now ready to be used as breathing air.

NOTE: Do not remove the poly bag from the male end and do not touch the male end. This will prevent contamination of the male fittings.

8. If the service air line to the air manifold is disconnected from the service air station in a contaminated area, it must be verified to be free of particulate and I 131 contamination prior to reuse.

Attachment 1

Valve Lineup Requirements

<u>VALVE #</u>	<u>DESCRIPTION</u>	<u>POSITION</u>	<u>DATE / TIME / IN.</u>
SA-V182	ACID UNLOADING ISOLATION CHLORINE HOUSE	CLOSED	
SA-V187	ACID UNLOADING CHLOR HOUSE	CLOSED	
SA-V189	ACID DELIVERY TRUCK HOSE CONN	CLOSED	
SA-V237	AIR TO MIXED BED DEMIN	CLOSED	
SA-V236	AIR TO REGENERAT STATION	CLOSED	
SA-V351	AIR TO RECEIVERS SA-T-2 113	CLOSED	
IA-V326	UNIT 1 / UNIT 2 TIE	CLOSED	
IA-V24	UNIT 2 / UNIT 1 TIE	CLOSED	
V19	Supply to RX BLDG	CLOSED	

<u>ALIC #</u>	<u>DESCRIPTION</u>	<u>POSITION</u>	<u>DATE/TIME/LIMIT</u>
SA-V356	SA HEADER ISOLATION	OPEN	
SA-V357	SA HEADER ISOLATION	OPEN	
SA-V358	SA Break Pressure Regulator	DISABLE CONTROLLER PC 7351 AND BULK VALVE <u>OPEN</u>	

Attachment 2Air Sampling Requirements

1. Immediately prior to use of the service air compressors for supply of breathing air, H.P. personnel shall draw an airborne sample in the service air compressor room. Draw the sample using a "high volume" sampler, such as a Radeco Sampler or equivalent, with a particulate filter and Iodine filter cartridge. The particulate filter shall be counted using a HP-210 / RM-14, or equivalent. Beta / Gamma instrument, to verify the airborne particulate activity is less than 3×10^{-10} $\mu\text{Ci} / \text{cc}$ (using a 10% efficiency for the HP-210). The charcoal Iodine filter shall be counted on the SAM-2, or equivalent. Pulse Height Analyzer, to verify the airborne Iodine activity is less than 9×10^{-10} $\mu\text{Ci} / \text{cc}$. Log results in Table A.
2. An air sample shall be drawn and analyzed as in paragraph 1 above every one hour after starting to use the service air compressors to supply breathing air for the first four hours of operation. Log results in Table A.

3. If all four (4) samples of paragraph 2 are less than the specified levels of paragraph 1, air sampling frequency may be changed at the discretion of the H.P. Supervisor, but shall be drawn at least once every four hours. Log results in Table A.

4. If a continuous air monitor (CAM), which samples and monitors for both particulate and Iodine activity (i.e. Eberline PING-2A or equivalent) is installed with a remote alarm, the manual sampling requirements may be deleted at the discretion of the H.P. Supervisor after verification that the CAM is functioning properly. If the air monitor does not have a remote alarm, readings of the air monitor shall be logged at a frequency specified by the H.P. Supervisor but shall be at least every four hours. Log results in Table A.

CAM operation verified satisfactory,
manual sampling deleted.

Date Time _____
H.P. Supervisor _____

5. If at any time the air samples exceed the levels of paragraph 1 above, or an alarm condition occurs on a continuous air monitor, the H.P. Supervisor shall be notified immediately. The H.P. Supervisor shall be responsible to insure that all personnel using the air system are immediately evacuated from the work area and removed from the air supply.

TABLE A

Air Sampling Results, Service Air Compressor Room.

NOTE 1 Sample initially and every hour for 1st 4 hours then sample at least every 4 hours if a continuous air monitor is not in use.

NOTE 2 If a remote alarm is not available, log continuous air monitor readings at least every 4 hours.

DATE / TIME	Air Particulates Activity uCi/cc <small>(SPEC < 5x10⁻¹⁰)</small>	Iodine Activity uCi/cc <small>(SPEC < 4x10⁻¹⁰)</small>	CAM Readings <small>NOTE 2</small>		H.P. Supervisor Signature
			Particulates	Iodine	
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