

AP 1001

Three Mile Island Nuclear Station
Special Operating Procedure

SIDE 1 REV

Figure 1001-8

SOP No. 2-51 2
(From SOP Log Index)

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

REVISION 2

Unit No. 1 & 2

Date 4-7-79

1. Title Liquid Release from TMI

2. Purpose (Include Purpose of SOP)
Control Release from TMI. Rev 2 clarifies reporting requirement to the State.

3. Attach procedure to this form written according to the following format. 0

- A. Limitations and Precautions
 - 1. Nuclear Safety
 - 2. Environmental Safety
 - 3. Personnel Safety
 - 4. Equipment retention
- B. Prerequisites
- C. Procedures

4. Generated by T. Morck 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 [Signature]
- (b) SOP is not valid after [Signature]
(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 <u>[Signature]</u> <u>4/7/79</u>	Approved - List members of PDRC contacted <u>[Signature]</u> <u>4/7/79</u>	UNIT 2 <u>[Signature]</u> <u>4/8/79</u>
<u>ALARA</u> <u>[Signature]</u> <u>4/7/79</u>	<u>[Signature]</u> <u>4/7/79</u>	<u>[Signature]</u> <u>4/8/79</u>
<u>[Signature]</u> <u>4/7/79</u>	<u>[Signature]</u> <u>4/7/79</u>	<u>[Signature]</u> <u>4/8/79</u>
Approved - Unit Superintendent <u>[Signature]</u>	<u>[Signature]</u> <u>4/7/79</u>	<u>[Signature]</u> <u>4/8/79</u>

8. SOP is Cancelled

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Shift Supervisor/Shift Foreman

Date

1.0 Discharge from IWS (IWFS), Unit 1 Neutralizing Tank and Unit 1 Waste Evaporator Condensate Storage Tank.

2.0 Purpose

To monitor and control release from the IWS (IWFS), and the Unit 1 Waste Evaporator Condensate Storage Tank, and Unit 1 Neutralizing Tank while isotopes are present in concentrations greater than MPC.

3.0 A. Limit and Precaution

1) Nuclear: None

2) Environmental

- a) Assure eff is within limits.
- b) Prompt sample analysis must be performed while releasing. Stop release if final fraction is found to be greater than 1.
- c) During discharge take grab samples at EMLT every 4 hours and record dilution flow and discharge flow rates.
- d) If discharges occur from two systems simultaneously, the dilution flow must be proportioned between the two to assure that the discharge MPC will be less than 1.0.

3) Personnel: None

4) Equipment: None

B. Prerequisites

1. Inform observation center prior to commencing release.

CI. Procedure - Release of IWS (IWFS)

1. Prior to commencing discharge to the river obtain a grab sample from the pump with the mixers running. Sample volume shall be 500 ml.
2. Obtain isotopic analysis of sample. Determine whether any other release will be in progress during IWS (IWFS) discharge, if so, proportion dilution flow between each release.
3. Complete IWS (IWFS) Water Sample Analysis Calculation Sheet (Attach detailed isotopic analysis data sheet to form). Use 150 gpm release rate for calculation of Dilution Factor unless a higher release rate is planned. Verify the final fraction is less than 1.0. If MPC levels are exceeded do not release water.

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4. Verify the pH is between 6 and 9.
 5. Inform Observation Center prior to commencing release.
 6. Start up MFS (MVS) and commence release per OP 1105-30A (506). Control release flow rate used in DF Calculation. Caution: If RML-7 alarm, immediately terminate release and resample per step 1 of this procedure.
 7. Notify the Unit 1 and Unit 2 Control Room personnel that the discharge is in progress, and if effluent flow is reduced, calculate a new MPC fraction for the release (must be less than 1.0). If RML-7 alarm, inform the release operator to terminate discharge.
 8. Obtain 500 ml grab samples from point 107 (104) approximately every two (2) hours while discharging. Insure priority analysis. Complete a calculation sheet using actual flow rates and verify that the final fraction of MPC is less than 1.0. If the final MPC fraction is greater than 1.0 immediately terminate the release and notify Unit 1 Control Room.
 9. Obtain grab samples from RML-7 approximately every four (4) hours, and record the discharge and dilution flow rates at the time of the sample. (21
 10. When isotopic analysis is received assure that the sample taken from RML-7 is less than MPC.
 11. Complete the attached Liquid Release Data Form for each tank or system being released using data from the RML-7 grab samples.
- Note: Additions to the system being discharged are permitted only if in accordance with SOP 2-33.
12. Return completed data sheets to Shift Supervisor.
 13. *Insure state is notified at least twice daily of releases and their sample analysis.*

C2. Procedure - Release of Secondary Neutralizing Tank for Unit 1

1. Prior to commencing discharge to the river obtain a 500 ml sample for chemistry and isotopic analysis.
2. Obtain isotopic analysis of sample. Determine whether any other release will be in progress during neutralizing tank release, if so, proportion dilution flow between each release.
3. Complete calculation sheet using 110% of estimated discharge flow. Verify that the final MPC fraction is less than 1.0. Do not release if MPC levels will be exceeded.

Note This is done by telecopying the liquid release form to Mr Lyons 3 times per day 131 063

4. Verify the pH is between 6 and 9.
 5. Inform Observation Center prior to commencing release.
 6. Commence release per OP 1104-18. If RML-7 alarms, notify Release Operator, to terminate release, and resample per step 1.
 7. Notify the Unit 1 and Unit 2 Control Room personnel that the discharge is in progress, and if effluent flow is reduced, calculate a new MPC fraction for the release (must be less than 1.0). If RML-7 alarms, inform the Release Operator to terminate release and resample per step 1.
 8. Obtain grab samples from RML-7 approximately every four (4) hours, and record the discharge and dilution flow rate at the time of the sample.
 9. When isotopic analysis is received assure that the sample taken from RML-7 is less than MPC.
 10. Complete the attached Liquid Release Data Form for each tank or system being released using data from the RML-7 grab samples.
 11. Return completed data sheets to Shift Supervisor.
 12. *Insure state is informed at least twice daily of releases and their sample analysis.*
- C3. Procedure for Releasing Waste Evaporator Condensate Storage Tank
1. Sample and fill out release permit per HPP 1621.
 2. Determine whether any other release is in progress. If so proportion the dilution flow between the two sources and prepare calculation sheet to verify that the final fraction is less than 1.0. Do not release if the diluted water will exceed MPC.
 3. Notify the Observation Center that release is intended.
 4. Commence release per OP 1104-29S and obtain grab sample every four (4) hours at RML-7. Record discharge flow rate and dilution.
 5. Notify the Unit 1 and Unit 2 Control Room that the discharge is in progress, and if effluent flow is reduced, calculate a new MPC fraction for the release (must be less than 1.0). If RML-7 alarms, inform the Release Operator to terminate release and resample per step 1.

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See Note on p. 2

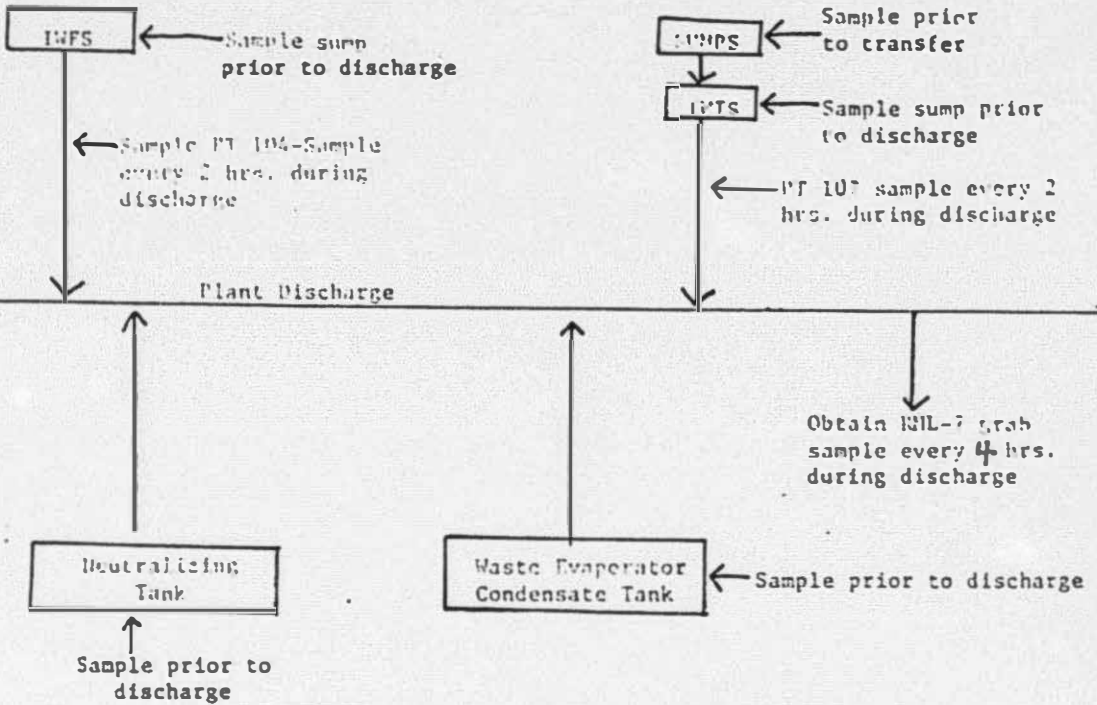
6. When isotopic analysis is received assure that the sample taken from RML-7 is less than MPC. Record the discharge and dilution flow rates at the time of the sample.
7. Complete attached Liquid Release Data Form for each tank or system being released using data from the RML-7 grab sample.
8. Return completed data sheets to Shift Supervisor.

9. Insure the state is notified at least twice daily of releases and their sample analysis.

Re
See note
on p 2

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SAMPLE LOCATIONS DURING RELEASE



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LIQUID RELEASE DATA FORM

Release Time

	<u>Start</u>		<u>Stop</u>		Discharge Flow Rate	Dilution Flow Rate	Volume
	Date	Time	Date	Time			

Industrial Waste Treatment System

Industrial Waste Filter System

Secondary Plant Neutralizing Tank

Waste Evaporator Condensate Tank

Sample Point: Station Discharge - Point 001

Isotopes Present

Concentration

Fraction of MPC

Total Fraction of MPC _____

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