

Sequoyah Nuclear Plant

SURVEILLANCE INSTRUCTION

SI-410

CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE, WASTE GAS DECAY TANK RELEASE OR OPERATION OF ABCTS OR ECTS

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PORC Review: 10/16/79
Date

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Date Approved: 10/16/79

Rev. No.	Date	Revised Pages
0	2/1/76	All
1	9/5/78	1 and 2
2	10/16/79	All

The last page of this instruction is Number

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1. TI-16 method for sampling the hot instrument room prior to purging containment.
2. TI-16 sampling method for radiation monitor (RM-90-118).
3. Technical Instruction for evaluating technical specification compliance for noble gas release rates.
4. SIL for setpoint logbook.
5. Plant procedures should be changed to comply with SI-410 (IMI's; SI's 82, 83, 204, 205, etc.)

Warren H. Kinsey
10-16-79

1272 094

1. SCOPE

1.1 Description

- 1.1.1 Establish and document radiochemical analyses required by the Technical specifications.
- 1.1.2 Establish and document radiochemical analyses required by system operation.

1.2 Objective

- 1.2.1 Satisfy surveillance requirements for the release of a waste decay tank or batch containment purge (upper compartment, lower compartment or incore instrument room).
 - a. Verify the release rate of noble gases to the shield building exhaust (Table 4.11-2, Section A and B, SR 4.11.2.1.2).
 - b. Verify the release concentration of tritium released from containment building to the shield building exhaust. (Table 4.11-2, Section B).
- 1.2.2 Satisfy non-technical specification requirements as follows:
 - a. Verify the release rate of noble gases from the shield building exhaust during operation of ABGTS or EGTS.

1.3 Frequency

1.3.1 Prior to Release

- a. Verify the release rate of noble gases from containment or waste gas decay tank to the shield building exhaust.
- b. Verify the concentration of tritium to be released from containment (upper compartment, lower compartment, or in-core instrument room).

1.3.2 During ABGTS (in conjunction with SI 21) and EGTS (in conjunction with SI 17) operation

- a. Verify the release rate of noble gases from the shield building exhaust(s).

NOTE: If the ABGTS is used for dilution air during waste gas decay tank releases then this commitment could be fulfilled by sampling and analyzing frequency of step 1.3.1.a.

1.0 (Cont.)

1.4 Logic Sequence - Batch Release

1.4.1 Containment (Upper compartment, lower compartment, incore instrument shop).

- 1.4.1.1 Operations notifies chemical laboratory of impending purge of containment.
- 1.4.1.2 Chemical laboratory personnel samples the upper compartment, lower compartment, or hot instrument room according to TI-16 for noble gas and tritium.
- 1.4.1.3 Chemical laboratory analyzes samples according to appropriate TI-12 methods and establishes monitors (130A, 131A, 100B-noble gas) setpoints. For containment purges, the chemical laboratory establishes the number of fans (1 or 2) that can be used.
- 1.4.1.4 Operations submits Maintenance Request(s) (MR's) to adjust monitors (130A, 131A, 100B) setpoint to values computed in Step 1.4.1.3. Operations, upon completion of purges containment according to SOI 30.2 (Upper or lower) or 30.4 (Hot instrument room). Upon initiation of containment purge the radwaste operator notifies the shift engineer to contact the Air Quality Branch in accordance with AI-18 file package No. 59. Radwaste operator collects data during the release as noted on SI data sheet 3.0.
- 1.4.1.5 Radwaste operator notifies chemical laboratory when purge has been completed and prepares MR to reset the shield building noble gas monitor (RM-90-100B) to setpoint prior to initiating purge of containment (if required). Chemical laboratory prepares AI-18 file package No. 59 for completion of the followup requirements.

1.4.2 Waste Gas - Decay Tank Release

- 1.4.1.1 Operations notifies chemical laboratory of impending release of a waste gas decay tank.

NOTE: Waste gas decay tank release will be allowed only during the hours of 0900 to 1600 (Central time). Any deviation from these allowable times requires the written approval of the operation or results supervisor.

- 1.4.1.2 Chemical laboratory personnel samples the applicable tank according to TI-16, method B.76.

1.0 (Cont.)

- 1.4.2.3 Chemical Laboratory analyzes sample(s) for principal gamma emitting isotopes according to TI-12 and SI-410 computer program and establishes monitor (RM-90-118) setpoint and allowable release flowrate (CFM).
- 1.4.2.4 Operations submits maintenance request to adjust monitor (0-RM-90-118) setpoint to value computed in step 1.4.2.3. Operations, upon completion of MR, releases the gas decay tank according to SOI 77.2 during the hours of 0900 and 1600 (central time). The radwaste operator will notify the shift engineer to contact the Air Quality Branch in accordance with AI-18 file package 59 requirements. Radwaste operator collects data during the release as noted on SI data sheet 6.0.

NOTE: If tank has not been completely discharged by 1600 central time, in order to finish releasing the tank contents, another complete SI-410 performance is required.

- 1.4.2.5 Radwaste operator notifies chemical laboratory when gas decay tank release has been completed or release complete for the day (1600 central time). Chemical Laboratory performs post release calculations and completes the followup requirements of AI-18, file package No. 59.

1.4.3 During ABGTS and EGTS Operation

NOTE: Section 1.4.3 not a technical specification requirement.

- 1.4.3.1 Operations notifies chemical laboratory of operation of ABGTS or EGTS operation to perform SI-410.
- 1.4.3.2 Chemical laboratory personnel samples the shield building exhaust according to TI-16 for noble gas.
- 1.4.3.3 Chemical laboratory analyzes sample for principal gamma emitting isotopes (noble gas) according to TI-12, and determines the noble gas release rate according to SI-410 computer program.
- 1.4.3.4 The computer program (SI-410) will compare the data to the technical specification limits (TI-18, Appendix A) and if exceeded will request a technical specification compliance evaluation per TI-(punchlist). Attach the evaluation to the SI data package.

2.0 INSTRUCTIONS

2.1 Containment Purge

2.1.1 Prior to Release

2.1.1.1 Operations Responsibility

2.1.1.1.1 Notify chemical laboratory of impending request for purging of containment (upper compartment, lower compartment, or incore instrument room).

2.1.1.1.2 Insert monitors (RM-90-130A, and 131A) check sources and verify the monitors response. Record the monitors (130A and 131A) check source response (CPM), monitor operable (yes or no), and operators initials on data sheet 2.0.

NOTE: (1) If either of the monitors do not respond, declare the monitor inoperable and notify the shift engineer and initiate a MR (instrumentation) to investigate and repair problem (restore monitor to operable status). Release (purge) per SOI 30.2 (upper or lower) or 30.4 (hot instrument room) can proceed providing the other monitor is operable.

(2) If both monitors are declared inoperable then immediately notify the shift engineer and initiate MR's to repair radiation monitors prior to initiating purge.

2.1.1.2 Chemical Responsibility

NOTE: Prior to obtaining any sample(s), verify that either of the radiation monitors are operable as noted on data sheet 2.0 step 2.1.1.2. If both monitors have been declared inoperable, do not assign a release number until one or both of the monitors (130A and 131A) have been declared operable.

2.1.1.2.1 Initiate a SI-410 data package and transmit to the radwaste operator or operations representative.

2.1.1.2.2 Sample the applicable location in accordance with the appropriate TI-16 method (B.115 - lower containment, B.116 - upper containment, or B. punchlist, hot instrument room) for tritium (TI-16, C.7) and noble gas (TI-16, C.6). Record sample location on SI data sheet 2.0.

2.0 (Cont.)

2.1.1.2.3 Analyze the samples according to TI-12, B.5 (noble gas concentration--principal gamma emitters) and TI-12, B.1 (tritium concentration) and compute the expected monitor (130A and 131A) response in accordance with TI-18, Section C.2, using SI-410 computer program. Record the noble gas and tritium concentrations and expected monitor response on SI-410 data sheet 2.0.

2.1.1.2.4 Evaluate the containment purge monitors (130A and 131A) setpoint using SI-410 computer program in accordance with TI-18 section C.1. Setpoint is based on the Xe-133 concentration in the containment compartment being sampled and then allowable release rate at the shield building exhaust. If the setpoint calculated for the containment purge monitors are less than expected for the monitor responses, then a conditional SI-417 performance is required to re-evaluate the allowable setpoint for shield building based on actual expected flowrates (14000 CFM for one containment purge fan or 900 CFM for hot instrument room fan) and allowable technical specification limits. Record on data sheet 2.0 and setpoint logbook (punchlist) the calculated setpoints required for containment purge (130A and 131A) and shield building exhaust (100) monitors used for purging.

NOTE: Present monitor setpoint can be obtained from the unit operator or applicable TI-37 logsheet (Appendix B) or setpoint logbook (punchlist).

2.1.1.2.5 If containment gas concentration is within acceptable limits to release, assign a release number to the SI-410 data package in accordance with TI-18, Section E and record release point identification and release number on data coversheet, data sheet 2.0, and TI-18 logsheet, Section E, Attachment C.

Example: 79-010-A-003

Year (79) - Total number of batch gas releases for year (10),
(A) - waste gas decay tank
A - (003) Third release
for year from tank (A).

2.0 (Cont.)

- 2.1.1.2.6 Transmit SI-410 package to the shift engineer for review and approval to purge the containment. Remove and replace (TI-16) the particulate filter and charcoal cartridge from the applicable shield building exhaust and perform a conditional SI-407 evaluation for samples initially removed from the shield building exhaust and record on data sheet 2.0.

2.1.2 During Purge - Batch

2.1.2.1 Operations Responsibility

- 2.1.2.1.1 Operator initiates MR(s) to have the instrument mechanics set radiation monitors (130A and 131A) alarm/trip at CPM value computed in step 2.1.1.2.4. Record MR numbers on data sheet 3.0 and attach a copy of each applicable completed MR to the SI data package.

NOTE: The shift engineer will make available the latest alarm/trip setpoint for functional testing and setpoint verification.

- 2.1.2.1.2 Record the initial response (CPM) for radiation monitors (RM-90-130A, RM-90-131A, and RM-90-100B) for noble gas prior to initiation of containment purge on data sheet 3.0.

- 2.1.2.1.3 After completion of the adjustment of the alarm/trip setpoint⁽¹⁾, purge the applicable containment compartment according to SOI 30.2 (upper or lower) or 30.4 (incore instrument room). Shift engineer notifies Air Quality Branch concerning containment purge in accordance with AI-18, file package 59 and record when notification is complete on data sheet 3.0.

NOTES: (1) If containment purge monitors (130A and 131A) indicates a trip (isolation), the operator will notify the chemical laboratory who in turn will contact the cognizant chemical engineer for further guidance for processing (purging) of containment and note recommendations in data sheet 3.0 remarks section.

2.0 (Cont.)

- 2.1.2.1.4 Record at hourly intervals the following information on SI-410 data sheet 3.0:
 - a. Shield building noble gas radiation monitor reading (CPM) and vent exhaust flowrate (CFM).
 - b. Containment purge monitors (130A and 131A) response (CPM), date/time/operator's initials.
- 2.1.2.1.5 Operator notifies the shift engineer that the purge has been completed and system has been secured in accordance with SOI 30.2 (upper or lower containment) or SOI-30.4 (hot instrument room)
- 2.1.2.1.6 Operator notifies the chemical laboratory lead analyst (SE-5) when purge has been completed so the post release evaluation for SI-410 can be performed and preparation of followup report per AI-18, file package 59, can be done.

2.1.3 Post Release Evaluation - Batch

2.1.3.1 Chemical Responsibility

- 2.1.3.1.1 Remove and replace (TI-16) charcoal cartridge and particulate filter from the applicable shield building exhaust and perform a conditional SI-407 evaluation on the samples removed from the shield building monitor. Record on data sheet 4.0.
- 2.1.3.1.2 Determine the quantity of radioactivity (noble gases) discharged during purging of containment per SI-410 computer program. Record total activity discharged on SI-410 data sheet 4.0 and applicable TI-37 Appendix B, log sheet.
- 2.1.3.1.3 Prepare AI-18, file package No. 59, for the followup reporting requirements. Record on data sheet 4.0 when completed.
- 2.1.3.1.4 Prepare MR to readjust the shield building exhaust monitor setpoint (if required), to value prior to initiating containment purge. Record MR number and setpoint value on data sheet 4.0.

NOTE: Setpoint prior to purging can be obtained from the unit operator or setpoint log-book (punchlist)

2.2 Waste Gas Decay Tank Release

2.2.1 Prior to Release

2.2.1.2 Operations Responsibilities

2.2.1.2.1 Notify chemical laboratory of impending release of waste gas decay tank (A, B, C, D, E, F, G, H, or J).

2.2.1.2.2 Insert monitor (RM-90-118) check source and verify the monitor response. Record the monitor (RM-90-118) check source response (CPM), monitor operability (yes or no) and operators initials. Transmit data package to chemical laboratory.

NOTE: If monitor does not respond, declare the monitor inoperable and immediately notify the shift engineer and initiate a maintenance request (instrumentation) to investigate and repair problem (restore monitor to operable status).

2.2.1.3 Chemical Laboratory Responsibility

NOTE: Prior to obtaining any sample(s), verify the radiation monitor noted on data sheet 5.0, step 2.2.1.2.2 is operable. If monitor has been declared inoperable, obtain two independent samples (one per analyst) and analyze each separately and attach both TI-12 evaluations to the SI data package.

2.2.1.3.1 Initiate a SI-410 data package.

2.2.1.3.2 Sample the applicable waste gas decay tank in accordance with TI-16, Method B.76, and install particulate filter and charcoal cartridge in the waste gas monitor (RM-90118) per TI-16, Method B.(punchlist) and record on data sheet 5.0.

2.2.1.3.3 Analyze the sample(s) according to TI-12, Method B.5, for principal gamma emitters (noble gas). Record the total gaseous concentration on SI data sheet 5.0.

2.2.1.3.4 Evaluate the monitor response (CPM) according to TI-18, Section C.4 and SI-410 computer program. Record expected monitor response on SI data sheet 5.0.

- 2.2.1.3.5 Evaluate the setpoint (CPM) for monitor (RM-90-118) and allowable release rate according to SI-410 computer program. Record the setpoint in setpoint logbook and allowable release flow rate and setpoint value on data sheet 5.0 and applicable TI-37 Appendix B logsheet. Another independent chemical analyst verifies the release rate calculations and initials on SI-410 data sheet 5.0.
- 2.2.1.3.6 Assign a batch release number to SI-410 data package in accordance with TI-18 Section E, Attachment C and record on SI-410 data cover-sheet, SI-410 data sheet 5.0, TI-18 Appendix C, and applicable TI-37 Appendix B, logsheet.
- 2.2.1.3.7 Transmit SI-410 data package to the shift engineer for review and approval to release gas decay tank to the environment.

NOTE: Gas decay tank only can be released during the hours of 0900 and 1600 (central time). Remove and replace (TI-18) the charcoal cartridge and particulate filter into the shield building. Monitor and perform a conditional SI-407 evaluation on the samples removed from the shield bldg monitor and initial data sheet 5.0.

2.2.2 Release of Gas Decay Tank - Batch

- 2.2.2.1 Radwaste operator initiates maintenance request (MR) to have instrument mechanics set radiation monitor alarm/trip at CPM value computed in step 2.2.1.3.5. Record maintenance request number on data sheet 6.0 and attach a copy of the completed maintenance request to the SI data package.

NOTE: The shift engineer will make available the latest alarm/trip setpoint for functional testing and setpoint verification.

- 2.2.2.2 After completion of the adjustment of the alarm/trip setpoint⁽¹⁾ discharge the gas decay tank⁽²⁾ according to SOI-77.2 at or below the allowable discharge flowrate (from FI-77-230 or computer point F2703) computed in step 2.2.1.3.5.

NOTE: (1) If monitor setpoint initiates a trip (isolation) the radwaste operator will then notify the chemical laboratory who in turn will contact the cognizant chemical engineer for further guidance for processing the tank contents.

(2) Shift engineer notifies the Air Quality Branch in accordance with AI-18, file package 59, when tank release is initiated. Discharge only between the hours of 0900 and 1600 (central time). If tank contents have not been processed by 1600 then restart release the following day by re-sampling and performing another SI-410.

2.2.2.3 Record at 1 hour intervals (during release) the following information on SI-410 data sheet 6.0.

2.2.2.4 Radwaste operator notifies the shift engineer that the release has been terminated (completed).

2.2.2.5 Radwaste operator notifies the chemical laboratory lead analyst (SE-5) when tank discharge has been completed or release complete for the day (1600 central time) so the post release evaluation for SI-410 can be performed by the chemical laboratory personnel.

NOTE: If the remaining of tank contents is to be released (pressure to approximately 5 psig) then another batch SI-410 is required prior to reinitiating the release.

2.2.3 Chemical Laboratory Post Release Evaluation

2.2.3.1 Remove the charcoal cartridge and particulate filter (per TI-16) from shield building exhaust and waste gas effluent monitor when discharge of the waste gas decay tank has been completed. Perform a conditional SI-407 evaluation on samples and note on data sheet 7.0.

2.2.3.2 Remove the charcoal cartridge and particulate filter (TI-16) from the waste gas monitor (RM-90-118) and analyze per TI-12, B.5, and record total iodine concentration and particulate concentration (decay corrected to weighted midpoint of release) on applicable TI-37, Appendix B, logsheet.

NOTE: Step 2.2.3.2 is not a technical specification requirement. Used to initiate the analysis of sample.

2.2.3.3 Determine the quantity of gaseous radioactivity released (curies), amount of release time (minutes), volume released (cc), weighted midpoint of release and average release rate ($\mu\text{Ci/sec}$) according to SI-410 computer program. Record total gaseous activity released from tank, weighted midpoint of release, total discharge time on SI-410 data sheet 7.0 and applicable TI-37, Appendix B, logsheet.

2.2.3.4 Prepare the followup report (48 hour) per AI-18 file package 59.

2.3 During Operation of ABGTS and EGTS

2.3.1 Operator notifies chemical laboratory to perform SI-410 upon the initiation of ABGTS or EGTS. Chemical lab personnel notes operator name, which system operating, date, and time on SI data sheet 8.0).

2.3.2 Sample the shield building exhaust (for noble gas) according to TI-16, method B.112 (C.6). Obtain and record shield building monitor response (CPM) at time of sampling.

2.3.3 Determine the total noble gas release rate according to TI-12, method B.5, and SI-410 computer program, and attach TI-12 evaluation (computer or manual) to the SI data package. Also record total release rate on data sheet 8.0.

3.0 Acceptance criteria is noted on applicable data sheet for each parameter monitored.

4.0 Actions Required

4.1 Notify the shift engineer and cognizant chemical engineer or chemical engineering associate if noble gas release rate exceeds the acceptance criteria.

4.2 If noble gas release rate exceeded specification limits, then a tech spec compliance evaluation per TI (punchlist) is required. The tech spec evaluation includes the total plant noble gas release rate.

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DATA PACKAGE COVER SHEET
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CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE OR WASTE GAS DECAY TANK RELEASE

Release Number _____ Unit _____

Date _____ Time _____

Performed By _____
Analyst(s)

List of data sheet attached.

<u>Instruction No.</u>	<u>Data Sheet No.</u>	<u>Pages</u>
SI-410	2.0,3.0,4.0,5.0,6.0,7.0,8.0	
TI-12	evaluation (computer or manual)	N/A
TI(Punchlist)	Tech Spec evaluation - if req'd	
MR Number _____	Copy _____	N/A

Were technical specification criteria satisfied? _____ Yes _____ No
If criteria were not satisfied, notify the cognizant chemical engineer who completes the following:

Was a limiting condition for operation violated?

_____ Yes (explain in remarks) _____ No (explain in remarks)

Verified By _____ Date _____
Cognizant Chemical Engineer Time _____

Reason for test:

_____ ABGTS or EGTS operation
_____ Upper containment purge
_____ Lower containment purge
_____ Hot instrument room purge
_____ Waste gas decay tank _____ Release _____
_____ Other (explain) _____

Review of Test Results

Chemical Engineering Associate _____ Date _____

Review and Approval of Test Results

Lead Chemical Engineer _____ Date _____

Cognizant Chemical Engineer _____ Date _____

QA Review of Test Results

QA Staff _____ Date _____

Remarks: _____

CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE - PRE-RELEASE REQUIREMENTS

(3) Unit _____
(3) Mode _____
(3) Power _____ mwt

Steps 2.1.1.1.1, 2.1.1.1.2, 2.1.1.2.6.a are operation responsibilities.

Steps 2.1.1.2.2, 2.1.1.2.3, 2.1.1.2.4, 2.1.1.2.5, 2.1.1.2.6.b are chemical responsibilities.

Procedure Step	Sample Location	Data	Acceptance Criteria	Analyst Initials
2.1.1.1.1	Upper compartment,	_____	None	_____
2.1.1.1.2	Lower compartment, Hot instrument rm.	_____		
2.1.1.1.2	(a) source check response monitor	_____ CPM		_____
	Monitor is operable	-RM-90-130A Yes/No (circle one)	None Yes	_____ _____ _____
	(b) Source check response monitor	_____ CPM		_____
	Monitor is operable	- RM-90-131A Yes/No (circle one)	None Yes	_____ _____ _____
2.1.1.2.3	Noble gas concentration	_____ $\mu\text{ci/cc}$	$\leq 8.5 \times 10^{-3} \mu\text{ci/cc}$	_____
	Expected monitor response (130A/131A)	_____ CPM		_____
	Tritium concentration	_____ $\mu\text{ci/cc}$		_____
2.1.1.2.4	-RM-90-130A setpoint ⁽²⁾	_____ CPM	NA	_____
	-RM-90-131A setpoint ⁽²⁾	_____ CPM	NA	_____
2.1.1.2.5	Release Number ⁽¹⁾	- - - - -		_____
2.1.1.2.6	(a) Operations			
	Shift engineer review complete and approves the purge.	Shift Engineer	N/A	_____
	(b) Chemical Section			
	Charcoal cartridge & particulate filter changeout complete and SI-407 initiated	/_____ Date Time Yes/No (circle one)	N/A	_____

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CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE - PRE-RELEASE REQUIREMENTS (Cont.)

Remarks: _____

NOTES: General - As soon as any parameter is found out of limits, immediately notify the shift engineer and note in the remarks section of the data sheet.

- (1) Note on data coversheet
- (2) If value in step 2.1.1.2.4 is less than expected monitor response, a re-evaluation of monitor setpoint by performance of SI-417 is required. Note in remarks section if SI-417 is performed and notification of the chemical engineering associate and cognizant chemical engineer.
- (3) Obtain from unit operator.

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CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE - RELEASE REQUIREMENTS

(5) Unit _____
 (5) Mode _____
 (5) Power _____ mwt

Release Number (3) _____ - _____ - _____ - _____
 Purge Location (4) _____

All Sections Are Operations Responsibility

[illegible]

CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE - RELEASE REQUIREMENTS (Cont.)

2.1.2.5 Shift engineer notified _____ / _____
Purge complete and _____
system secured per _____
applicable SOI 30.2 _____
or 30.4 _____
Date Time Operator

NOTES: General: As soon as any parameter is found out of limits, immediately notify the shift engineer.

- (1) If radiation monitors are declared inoperable, immediately stop purging, notify the shift engineer and note in remarks section. If monitor isolates, immediately notify the shift engineer and the chemical laboratory to evaluate the actions required to continue processing of the containment purge and cause for the isolation. Note in remarks section the cause and corrective action(s) to be taken. Under no circumstances increase the monitor setpoint prior to a thorough re-evaluation.
- (2) Note on data cover sheet for list of data sheets attached.
- (3) From step 2.1.1.2.5 of data sheet 2.0.
- (4) From step 2.1.1.1 of data sheet 2.0.
- (5) Obtain from unit operator.

REMARKS: _____

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CONTAINMENT (UPPER, LOWER, HOT INSTRUMENT ROOM) PURGE - POST PURGE EVALUATION

(3) Unit _____
(3) Mode _____
(3) Power _____ mwt
Release Number (1) ____ - ____ - ____ - ____
Purge Location (2) _____

All Sections are Chemical Responsibility

Procedure Step	Chemical Parameter	Data	Acceptance Criteria	Initials
2.1.3.1.2	Total noble gas activity discharged during purge	_____ curies	NA	_____
2.1.3.1.1	Charcoal cartridge and particulate replacement complete - shield bldg exhaust. SI-407 scheduled for performance.	Yes/No (circle one)	Yes	_____
2.1.3.1.3	AI-18, file package No. 59 complete for purge	Yes/No (circle one)	Yes	_____
2.1.3.1.4	Maintenance Request to re-set shield building monitor (if required) (RM-90-100A)	_____ (MR Number) Setpoint	NA CPM	_____ _____

REMARKS: _____

NOTES: (1) From step 2.1.1.2.5 of data sheet 2.0
(2) From step 2.1.1.1.1 of data sheet 2.0
(3) Obtain from unit operator

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Date _____

Time _____

WASTE GAS DECAY TANK - PRE-RELEASE REQUIREMENTS

Sections 2.2.1.2.1, 2.2.1.2.2, 2.2.1.3.7a are operations responsibility
Sections 2.2.1.3.2, 2.2.1.3.3, 2.2.1.3.4, 2.2.1.3.5, 2.2.1.3.6, 2.2.1.3.7.b are chemical responsibility

<u>Procedure Step</u>	<u>Description</u>	<u>Data</u>	<u>Acceptance Criteria</u>	<u>Operator or Analyst Initials</u>
2.2.1.2.1	Waste Gas Decay Tank	A,B,C,D,E,F,G,H,J (Circle one)	_____	_____
2.2.1.2.2	(a) Check source response (b) Monitor (c) Monitor is operable	_____ CPM 0-RM-90-118 Yes/No (Circle one)	_____ _____ Yes	_____ _____ _____
2.2.1.3.2	Changeout of particulate prefilter & charcoal cartridge at RM-90-118 complete	Yes/No (Circle one)	Yes	_____
2.2.1.3.3	Total noble gas concentration	1st sample _____ $\mu\text{Ci/cc}$ 2nd sample _____ $\mu\text{Ci/cc}$	_____ _____	_____ _____
2.2.1.3.4	Expected monitor (0-RM-90-118) response	_____ CPM	_____	_____
2.2.1.3.5	(a) RM-90-118 monitor setpoint (b) Allowable release flowrate (c) Verification complete by second chemical analyst	_____ CPM _____ CPM Yes/No (Circle one)	_____ _____ Yes	_____ _____ _____
2.2.1.3.6	Batch release number ⁽¹⁾	____ - ____ - ____ - ____	N/A	_____

(1) Note on data cover sheet

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Date _____

Time _____

WASTE GAS DECAY TANK - PRE-RELEASE REQUIREMENTS (Cont.)

Sections 2.2.1.2.1, 2.2.1.2.2, 2.2.1.3.7.a are operations responsibility
Sections 2.2.1.3.2, 2.2.1.3.3, 2.2.1.3.4, 2.2.1.3.5, 2.2.1.3.6, 2.2.1.3.7.b are
chemical responsibility

Procedure Step	Description	Data	Acceptance Criteria	Operator or Analyst Initials
2.2.1.3.7 (a)	<u>Operations</u> Shift engineer review complete and approves the waste gas decay tank release only during the hours of 0900 - 1600 (central time)	Shift Engineer _____ Date Time	NA	
(b)	<u>Chemical Section</u> Changeout of part- iculate and charcoal on shield bldg exhaust complete	Yes/No (Circle one)	Yes	_____

NOTE: General - As soon as any parameter is found out of limits, immediately
notify the shift engineer and/or chemical engineering associate
and cognizant chemical engineer and note in the remarks section
of the data sheet.

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All Sections are Operations Responsibility

All Sections are Operations Responsibility

(Operator)

WASTE GAS DECAY TANK - RELEASE REQUIREMENTS (Cont.)

All Sections are Operations Responsibility

REMARKS: _____

NOTE: General - As soon as any parameter is found out of limits, immediately notify the shift engineer.

- (1) If radiation monitor is declared inoperable, immediately stop the release and notify the shift engineer.

If monitor isolates, immediately notify the shift engineer and the chemical laboratory to evaluate the actions required to continue processing of the tank contents and cause for the isolation. Note in the remarks section the cause and corrective actions to be taken. Under no circumstances increase the monitor setpoint prior to a thorough re-evaluation.

- (2) Release only during the hours of 0900 - 1600 (central time) and at flow rate \leq to value computed in step 2.2.1.3.5 (data sheet 5.0). There shall be no release of a gas decay for more than one time period (0900 - 1600 central time) using the same SI data package.

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Date _____

Time _____

Release Number ⁽²⁾ _____ - _____ - _____ - _____

Waste Gas Decay Tank ⁽³⁾ _____

WASTE GAS DECAY TANK - POST RELEASE REQUIREMENTS

All Sections are chemical responsibility

<u>Procedure Step</u>	<u>Description</u>	<u>Data</u>	<u>Acceptance Criteria</u>	<u>Initials</u>
2.2.3.1	Changeout of shield	<u>Yes/No</u>	Yes	_____
2.2.3.2	bldg and waste gas effluent monitors particulate prefilter & charcoal cartridge complete and SI-407 initiated	<u>(Circle One)</u>		_____
2.2.3.3	(a) Volume released	_____ cc	NA	_____
	(b) Total gaseous activity released	_____ ci	NA	_____
	(c) Total amount of release time	_____ min	NA	_____
	(d) Average release (noble gas) rate ⁽¹⁾	_____ $\mu\text{Ci/sec} \leq 1.1 \times 10^5 \mu\text{Ci/sec}$		_____
	(e) Weighted midpoint of release	_____/_____/_____ date month hr min		_____
2.2.3.4	AI-18, File Package 59 (followup) - complete	<u>Yes/No</u> <u>(Circle One)</u>	Yes	_____

- NOTE: General - As soon as any parameter is found out of limits, immediately notify the shift engineer using a SIL C10 form, Attachment F.
- (1) If acceptance criteria is exceeded then a tech spec evaluation per TI (punchlist) is required.
 - (2) From Step 2.2.1.3.6 of data sheet 5.0.
 - (3) From Step 2.2.1.2.1 of data sheet 5.0

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DURING ABGTS OR EGTS OPERATION

All Sections on Data Sheet are Chemical Responsibility

Date _____	Time _____			
Procedure Step	Description	Data	Acceptance ⁽¹⁾ Criteria	Analyst Initials
2.3.1	Notification of EGTS or ABGTS operation	ABGTS/EGTS (Circle One)	N/A	_____
		Operator _____	N/A	_____
2.3.2	-RM-90-100B	_____ CPM	N/A	_____
2.3.3	Total Noble Gas Release Rate	_____ $\mu\text{Ci/sec}$	$\leq 1.1 \times 10^5 \mu\text{Ci/sec}$	_____

REMARKS: _____

NOTES: General - As soon as any parameter is found out of limits, immediately notify the shift engineer and/or chemical engineering associate and cognizant chemical engineer.

(1) If limit(s) is exceeded, a technical specification evaluation according to TI-30 (isotopic method) is required to evaluate possible gas condition (REP) may exist.

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