Applicable Field Changes _____

SOP 63-8

MELTER FEED HOLD TANK 63V-011 AND CONDENSATE COLLECTION TANK SLURRY/SOLUTION TRANSFERS

Rev. 0

Approved _____
Operations Manager

Date 3/9/88

Approved _____
Cognizant Engineering Manager

Date 3/4/88

Approved _____
Radiation and Safety Manager

Date 3/9/88

Approved _____
Quality Assurance

Date 3-9-88

System Quality Level N

System Safety Class N

The estimated accumulated dose for the work described in this document is less than 100 mrem.

WEST VALLEY NUCLEAR SERVICES CO., INC.

March 1988

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RECORD OF REVISION

PROCEDURE

If there are changes to the procedure, the revision number increases by one. These changes are indicated in the left margin of the body by an arrow (>) at the beginning of the paragraph that contains a change. If the paragraph or section contains a partial revision and/or addition, the revised section is enclosed with arrows (>> ... <<).

Example:

> The arrow in the margin indicates a change. >>These arrows indicate that this section has been revised and/or added.<<

Procedure No. SOP 63-8, Rev. 0 Date: March 1988

Rev. No.	Description of Changes	No. of Page
0	Initial Document	All

RECORD OF REVISION (CONTINUATION SHEET)

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SOP 63-8

MELTER FEED HOLD TANK V-011 AND CONDENSATE COLLECTION TANK SLURRY/SOLUTION TRANSFERS

1.0 SCOPE

This procedure applies to non-radioactive slurry /solution transfers made by Vitrification Operations from the MFHT and condensate collection Tank to various tanks in the Vitrification Facility. This procedure is for interim use until permanent installations are completed.

2.0 ABBREVIATIONS

2.1 MFHT - Make Up Feed Hold Tank

2.2 11K - 11,000 Gallons

2.3 TCCFM - Temporary Cold Chemical Feed Make Up

2.4 6K - 6,000 Gallons

3.0 RESPONSIBILITIES

3.1 The Vitrification Test Group Manager is responsible for directing the overall operation of the Vitrification System

3.2 Vitrification Test Engineering is responsible for the technical operation of the Vitrification System.

3.3 The Vitrification Operations Shift Supervisor is responsible for assignment of properly trained operators at the Vitrification Facility and for day-to-day direction of those operators.

3.4 The Vitrification Operator is responsible for operation of the plant according to approved operating procedures, run plans, sample schedules, and the operating procedures in this SOP. When a situation is not covered by a procedure, he/she is responsible for notifying the Vitrification Operations Shift Supervisor.

3.5 Quality Assurance will perform surveillance of the ongoing work as deemed appropriate.

4.0 TOOLS, EQUIPMENT, COMPONENTS, AND REFERENCES

4.1 Tools, Equipment, and Components

4.1.1 Make Up Feed Hold Tank 63-V-11

4.1.2 MFHT Condensate Collection Pot

4.1.3 West Cold Chemical Feed Make Up Tank 65-D-02

4.1.4 East Cold Chemical Feed Make Up Tank 65-D-01

4.1.5 11,000-Gallon Tank 63-D-18

4.1.6 Demineralized Water

4.1.7 Double Diaphram Air Operated Pump T65-G-01 for East and West Cold Chemical Feed Make Up Tanks

4.1.8 Double Diaphram Air Operated Pump T65-G-02 for 11K Tank, MFHT, and 6K Tank.

4.1.9 Double Diaphram Air Operated Pump with 1-inch discharge for MFHT Condensate Collection Tank

4.1.10 1-inch and 2-inch Chemical Transfer Hose and associated stainless steel hose fittings

4.1.11 Utility and Instrument Air

4.2 References

4.2.1 WVDP-011, Industrial Hygiene and Safety Manual.

5.0 GENERAL

5.1 Melter Feed Hold Tank

Tank 63-V-11 is a 304L stainless steel 5,875-gallon measuring 10 feet in diameter and 10 feet in height. It is located in the Vitrification Facility Pit. The Tank is used as an evaporator/condenser, slurry feed receiver, and feed Tank. The MFHT is equipped with internal steam coils, a cooling jacket, a air displacement slurry pump, and a 15 HP agitator. The composition of the feed usually kept in the Tank is usually a nitrated slurry.

5.2 Review and comply with appropriate sections of the Vitrification operations monthly IWP for solution slurry transfers.

5.3 OPERATORS SHOULD PERFORM FREQUENT CHECKS ON SYSTEMS THAT ARE TURNED ON OR SHUT DOWN TO ASSURE THAT THE SYSTEM DOES WHAT IS EXPECTED, I.E., WATER FLOWS, PRESSURE RISES, LEVEL INDICATORS, ETC. IF THE REQUIRED ACTION THAT IS SUPPOSED TO HAPPEN DOES NOT HAPPEN, (1) STOP - DO NOT ATTEMPT TO PERFORM THE NEXT STEP, (2) SECURE SYSTEM IN A SAFE MODE, AND (3) NOTIFY SHIFT SUPERVISOR IMMEDIATELY.

6.0 PROCEDURE

ALL STEPS IN THIS PROCEDURE WHICH REQUIRE AN INSPECTION, THE RECORDING DATA, OR A SIGN-OFF WILL BE DENOTED BY A [+] IN THE LEFT HAND MARGIN. THE INSPECTION RESULTS, DATA, OR SIGN-OFF WILL BE RECORDED IN THE CTS OPERATIONS LOG BOOK, VITRIFICATION TANK LEVEL LOG, RUN DATA SHEET, AND/OR SAMPLE LOG.

Any deviations from pump and/or hose type, size and materials of construction shall be approved by the shift supervisor.

6.1 Slurry Transfers From the Melter Feed Hold Tank 63-V-11 To The 11,000-Gallon Tank 63-D-18

[+] 6.1.1 Verify the transfer with the shift supervisor.

6.1.2 Obtain the Melter Feed Hold Tank (MFHT) 63-V-11 level.

a. If the MFHT agitator is on, turn it off and tag per Standing Instruction 005.

b. Remove MFHT port "C" cover.

c. Insert the wooden stick marked in inches into the MFHT.

d. Remove the stick note the inches on the stick. Replace port "C" cover.

e. Untag per Standing Instruction 005 and turn on the MFHT agitator, if there is sufficient solution/slurry. If ok'd by VOS leave the agitator and port "C" off for transfer.

f. Using the MFHT calibration chart, convert inches to gallons.

6.1.3 Obtain the 11,000-gallon tank (11K) level by:

a. Turn off the 11K agitator at the MCC and tag per Standing Instruction 005, if it is on, and open the safety disconnect on top of the Tank.

b. Open the port cover.

c. Insert the wooden stick marked in inches into the 11K Tank.

d. Remove the stick and replace the cover. Note the inches on the stick.

e. Untag per Standing Instruction 005 and turn on the 11K agitator, if it was turned off in Step 6.1.3 (a).

f. Using the 11K calibration chart, convert the inches to gallons.

[+] 6.1.4 Verify the 11K Tank has the void capacity to hold the amount of solution/slurry to be transferred. Compare the levels obtained in Steps 6.1.2 and 6.1.3 with the last recorded levels in the Vitrification Tank Level Log Book. If there is a large discrepancy between the levels, contact the shift supervisor.

Void Capacity = .90 (Total Capacity) - Present Volume

6.1.5 Check with the shift supervisor or the cognizant engineer to see if samples are required from either tank before the transfer. If required, take the samples, label, and log in Sample Log.

6.1.6 Turn off the MFHT agitator if it is on and remove one of the HANFORD connectors or port "C" cover from the MFHT.

6.1.7 Obtain a 2-inch chemical transfer hose sufficient in length to reach from inside the MFHT to the inlet side of pump T65-G-01, valve T65-HV-101.

6.1.8 Connect the 2-inch chemical transfer hose to pump T65-G-01 inlet side at valve T65-HV-101.

6.1.9 Insert the other end of the 2-inch chemical transfer hose into the MFHT.

6.1.10 Walk the transfer line and verify all the connections are secure and all the KAMLOCK fittings are tie wrapped.

6.1.11 If a D.W. flush is required after transfer is complete. Place a 55-gallon stainless drum next to the N.W. pit column were it can be reached with the MFHT end of the transfer line. Fill the drum with the specified amount of D.W. in preparation for the line flush after transfer.

6.1.12 Check that the following valves are closed. (See Figure 1)

T65-HV-100	T65-HV-103	T65-GL-001
T65-HV-101	T65-HV-104	T65-GT-001
T65-HV-002	T65-HV-105	65DW-GT-007
T65-HV-003	T65-HV-106	65DW-H-001
T65-HV-102	T65-GT-002	

6.1.13 Open pump inlet valve T65-HV-101.

6.1.14 Open pump outlet valves T65-HV-102 and T65-HV-104.

6.1.15 Open utility supply valves 6UA-GT-038, 6UA-GT-014, and T65-GT-002.

6.1.16 Open the petcock on the water trap and drain any condensate.

6.1.17 Close the petcock on the water trap.

6.1.18 Check the pump station air oiler level and add killfrost oil if necessary. Oil should feed approximately 1 drop per minute.

6.1.19 Open utility air supply valve T65-GT-001.

6.1.20 Throttle valve T65-GT-002 to achieve a smooth pumping action.

6.1.21 Check that the 11,000-gallon tank is receiving the slurry transfer at Micon 1 Loop 4 or Input 1 or look in the port on top of the tank.

6.1.22 Walk the transfer line periodically and check for leaks. If any leaks are detected, shut down the pump and notify the shift supervisor.

6.1.23 Once the level of the 11K Tank or MFHT has reached the limit designated by the work order or test plan, prepare to flush the transfer line by carefully pulling the MFHT end (suction) of the transfer line out of the MFHT and putting it into the 55-gallon drum containing the D.W. flush that was prepared in step 6.1.11.

6.1.24 Once the drum containing the flush water has been emptied and the transfer line has been flushed, Allow the pump to run for ~45 sec. clear the lines of as much demin. water as possible.

6.1.25 Close utility air valves T65-GT-002, 6UA-GT-038, T65-GT-X and 6UA-GT-014

6.1.26 Close valves T65-HV-104, T65-HV-102, and T65-HV-101.

6.1.27 Obtain the Melter Feed Hold Tank (MFHT) 63-V-11 level.

a. If the MFHT agitator is on, turn it off and tag per Standing Instruction 005.

b. Remove MFHT port "C" cover, if on.

c. Insert the wooden stick marked in inches into the MFH

d. Remove the stick and replace the MFHT port "C" cover. Note the inches on the stick.

e. Untag per Standing Instruction 005 and turn on the MF agitator, if it contains sufficient solution/sl

f. Using the MFHT calibration chart convert inches to gallons.

6.1.28 Obtain the 11,000-gallon tank (11K) level by:

a. If the 11K agitator is on, turn it off and tag per Standing Instruction 005.

b. Open the port cover.

c. Insert the wooden stick marked in inches into the 11 Tank.

d. Remove the stick and replace the cover. Note the in on the stick.

e. Untag per Standing Instruction 005 and turn on the 11K agitator, if the agitator was turned off in Step 6.1.28 (a).

f. Using the 11K calibration chart convert the inches to gallons.

[+] 6.1.29 Record the level of the MFHT and 11,000-gallon tank in the Vitrification Tank Level Log Book, and in the CTS Operations Log Book.

6.1.30 Remove the transfer lines from the pump inlet at valve T65-HV-101. Drain line of any remaining liquid and properly store.

[+] 6.1.31 Notify the shift supervisor that the transfer is complete.

6.2 Solution Transfers From The Melter Feed Hold Tank Condensate Collection Tank To The East or West Cold Chemical Feed Make Up Tanks 65-D-01, or 65-D-02. During MFHT Boildown Runs.

6.2.1 Previous to Boildown, the following checks should be performed.

a. Unless otherwise specified, make sure the West Tank 65-D-02 is empty and clean enough to receive MFHT condensate. If the East Tank 65-D-02 is also expected to receive condensate during the run, make sure it is also empty.

b. Check that the 1-inch chemical transfer line is connected at one end to the MFHT condensate collection Tank pump T65-G-03's discharge side.

c. Walk the transfer line and verify that it is properly connected and secured all the way to the garage tanks.

d. Check the ends of the transfer line is clamped or comparably secured to the top of the tanks so that a short section of each extends down inside the agitator opening.

e. The agitator of the tank receiving the condensate tanks should be left off unless otherwise specified. If the agitator must be turned on make sure that the end of the discharge line inside the Tank is short enough so that it does not interfere with the agitator in any way.

f. If condensate is to be pumped to the east Tank 65-D-01, make sure valve T65-BV-118 is closed and valve T65-BV-119 is fully open. If condensate is to be pumped to the west Tank 65-D-02, make sure valve T65-BV-118 is fully open and valve T65-BV-119 is closed.

6.2.2 Enter in the Vitrification Tank Level Log Book, under East or West Garage Tanks sections that Boildown # -- is in progress and that current Tank levels can be found on the Run Data Sheet.

6.2.3 Check current level of the MFHT condensate collection Tank. If level is different from the level last logged in the Tank Level Log. Notify the shift supervisor.

6.2.4 Check that the following valves are closed:

T65-HV-109	65DW-GT-017	T65-BV-121
T65-HV-110	65DW-GT-016	CV-300
T65-HV-108	65DW-GT-015	T65UA-HV-008
T65-HV-107	65DW-GT-020	T65-BV-123
6DW-H-014	65DW-GT-021	T65-BV-124

T65-BV-118 (only if transferring to east Tank)
T65-BV-119 (only if transferring to west Tank)

6.2.5 Check that the following valves are open: (See Figure 2 or 3)

6UA-GT-009	T65UA-HV-006
T65-BV-120	T65-BV-122

T65UA-HV-007 (open only 1 1/2 turns)
T65-BV-118 (only if transferring to west Tank)
T65-BV-119 (only if transferring to east Tank)

NOTE: When or before the MFHT condensate collection Tank reaches the level (55 inches) in which it must be pumped to the garage tanks. Actuate T65-G-03 to confirm that it will pump, then turn it off. (Micon 2, Loop 5 - valve output 100 percent to turn pump on. Valve output 0 percent to turn pump off)

6.2.6 During MFHT boildown once the Condensate Collection Tank level reaches a level of approximately 55 inches as observed on LIC-300, Micon 2, Loop 5 or Micon 2 Input 5. Start pump T65-G-03 by putting the Valve Output at 100 percent on Micon 2 Loop 5. T65-G-03 can also be actuated on Graph 87, CRT 1 or 2.

6.2.7 After T65-G-03 has been turned on, an operator shall walk the transfer line from T65-G-03 to the garage tanks verifying that there are no leaks in the line and that the preselected garage Tank is receiving condensate.

6.2.8 Once the MFHT condensate collection Tank level reaches a level of approximately 1 inch, note level and turn off pump T65-G-03, Micon 2 Loop 5 or Micon 2 Input 5 or on Graph 87 - LIC-300 by entering a value output of 0 percent.

6.2.9 Check that the pump is off.

6.2.10 Visually attain a level in the garage Tank receiving condensate.

[+] 6.2.11 Log transfer in CTS Operations Log Book.

[+] 6.2.12 Log appropriate vessel data on boildown vessel level data sheet.

6.2.13 Repeat Steps 6.2.6 to 6.2.12 each time the MFHT condensate collection Tank reaches approximately 55 inches during the boildown.

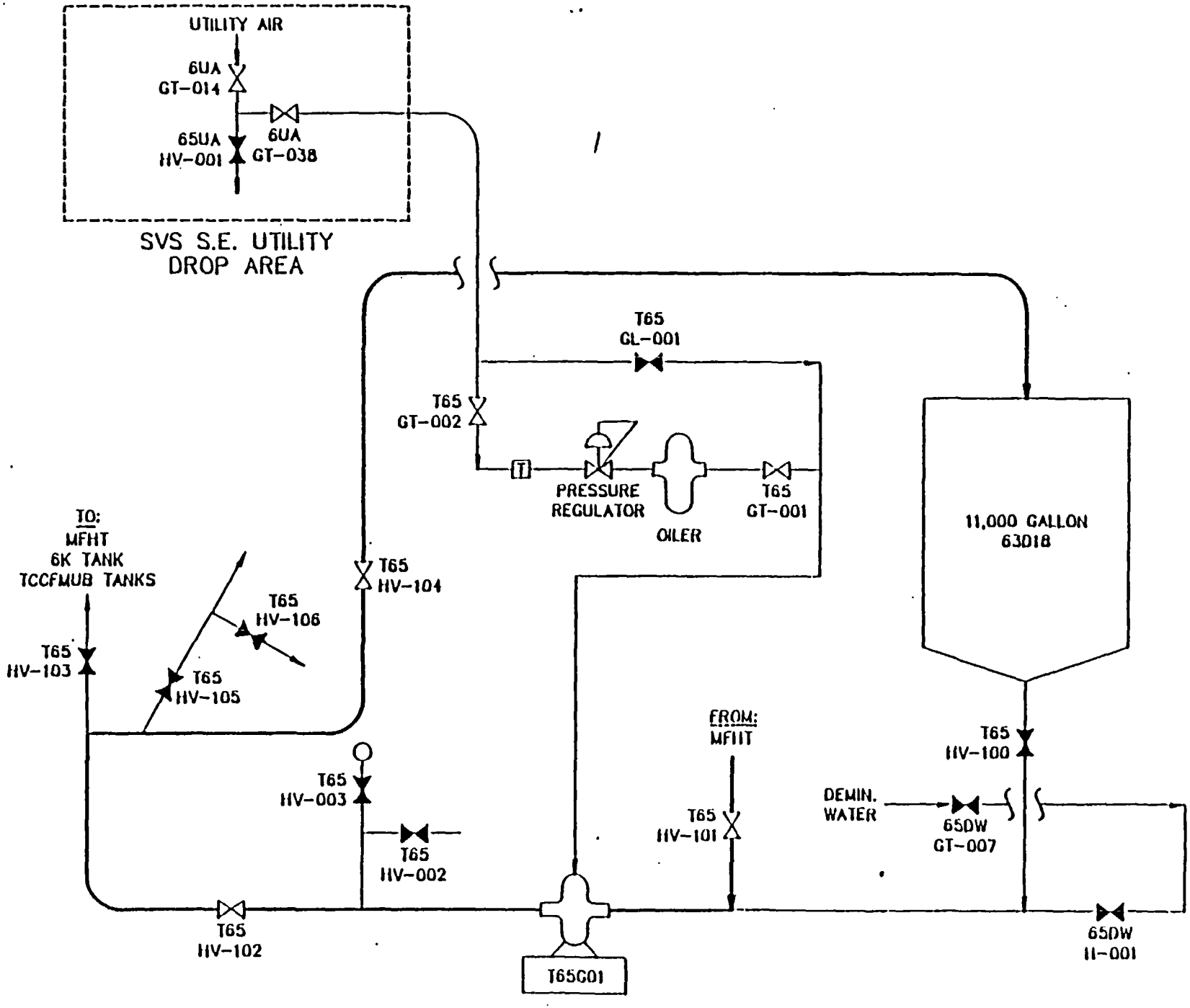
[+] 6.2.14 When boildown run has been completed log final levels of the west and/or east garage tanks and the MFHT condensate collection Tank in the CTS Operations Log Book, and in the Vitrification Tank Level Log Book.

7.0 FIGURES

7.1 Figure 1 - Transfer from MFHT 63-V-011 to 11K Tank 63-D-18 Flow Diagram

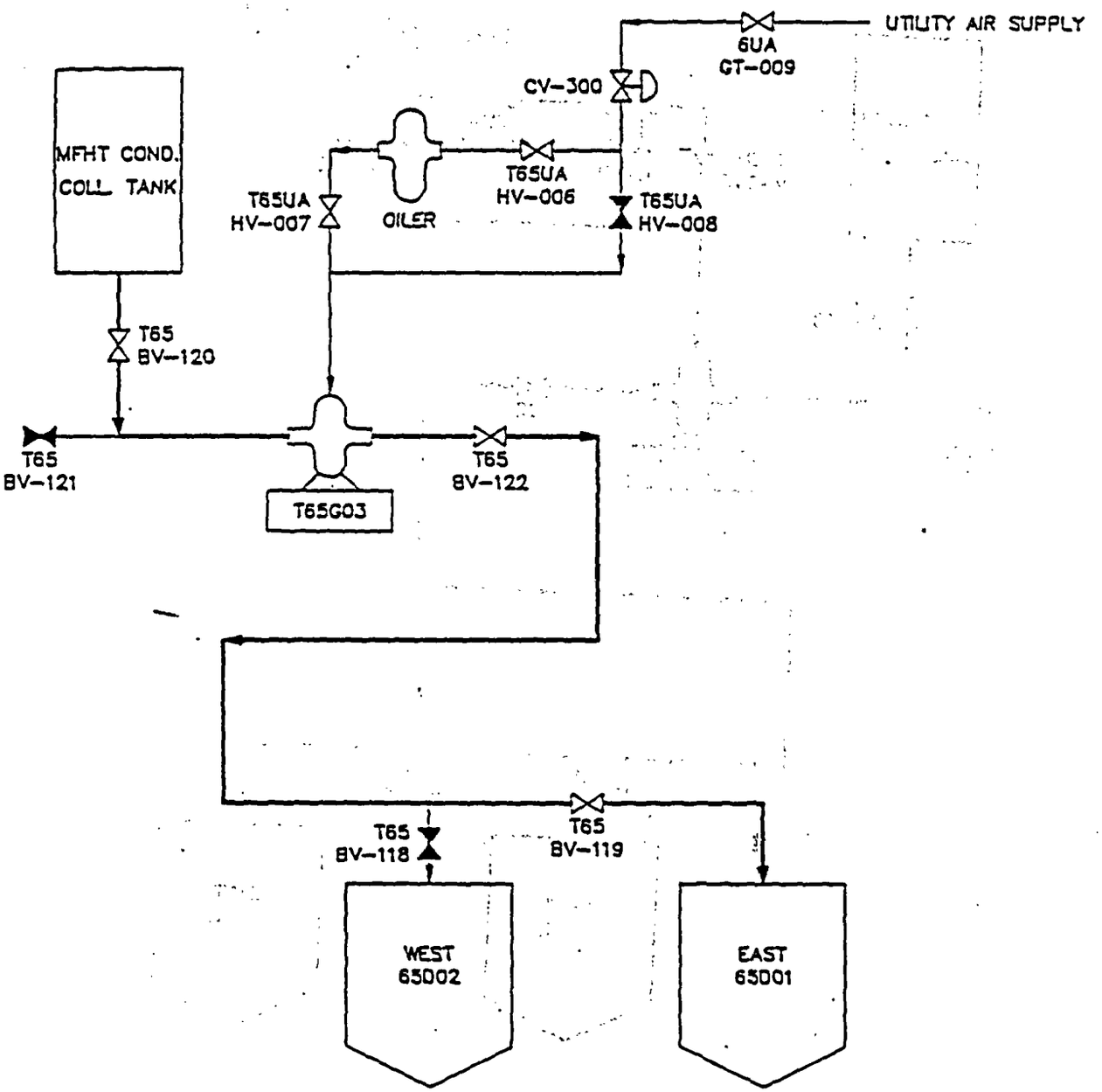
7.2 Figure 2 - MFHT Condensate Collection Tank Transfer to East Tank 65-D-01

7.3 Figure 3 - MFHT Condensate Collection Tank Transfer to West Tank 65-D-02



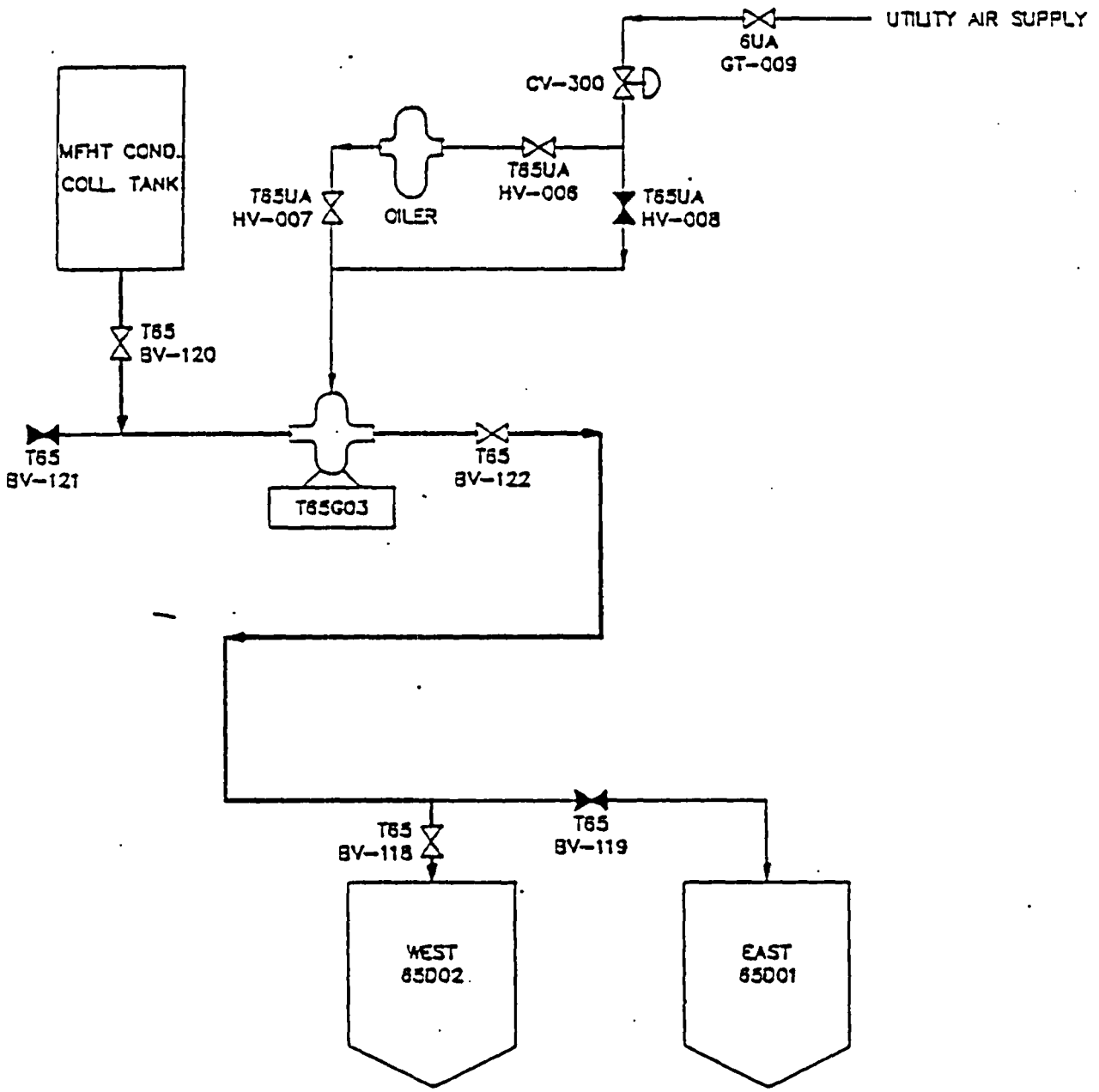
TRANSFER FROM MFHT 63-V011 TO 11K TANK 63-D18 FLOW DIAGRAM

FIGURE 1



MFHT CONDENSATE COLLECTION TANK TRANSFER TO EAST TANK 65-D01

FIGURE 2



MFHT CONDENSATE COLLECTION TANK TRANSFER TO WEST TANK 65-D0:

FIGURE 3