

WRITTEN BY:
APPROVED BY:
DATE:

5609-09.SOP
TEMPORARY SHUTDOWN
OF G-3

OPERATOR'S NAME: _____ DATE _____

CHECK	ACTION STEPS (Capital letters) and Comments (Small letter)
_____	1. JOB SAFETY INSTRUCTIONS REVIEWED.
_____	2. INSURE THAT YOU ARE WEARING PROPER SAFETY EQUIPMENT.
_____	3. ISOLATE THE VAPOR LINE FROM THE LOW TEMPERATURE STORAGE TANKS. This will allow the compressor to unload.
_____	4. CLOSE THE COMPRESSOR SUCTION VALVE AND ALLOW THE COMPRESSOR TO SHUT DOWN ON LOW SUCTION PRESSURE. G-3 will shut down at 5 psig. The oil pump will shut down. The condenser fan will shut down if G-2 is down.
_____	5. CHECK THE OIL HEATER SWITCH AND MAKE SURE IT IS LEFT ON. This will allow for separation of the oil and ammonia and allow a faster system start-up.
_____	6. CHECK THE CONTROL POWER SWITCH AND MAKE SURE IT IS LEFT ON. The control power switch also controls the oil heater control circuit.
_____	7. CHECK THE CONDENSATE PUMP (P-5 OR P-6) AND LEAVE ON "TIMER".

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5609-10.SOP
HOLDING REFRIGERATION USING G-3 -
EXTENDED SHUTDOWN

OPERATOR'S NAME: _____ DATE _____

CHECK	ACTION STEPS (Capital letters) and Comments (Small letter)
_____ 1.	JUST PRIOR TO SHUTDOWN, THE PUMP DOWN RUN SWITCH SHOULD BE TURNED TO THE "PUMPDOWN" POSITION. a. Closes solenoid valves in main liquid line, the hot gas bypass line going to the ammonia evaporator and the desuperheating liquid line. b. Green hot gas will go off. c. Green E-3/E-4 liquid indicating lights will go off.
_____ 2.	THE VCM COOLING LOADS SHOULD BE LEFT ON AS LONG AS POSSIBLE. This will help boil off the ammonia in the evaporator.
_____ 3.	AS THE AMMONIA LEVEL IN THE EVAPORATOR DECREASES THE HEAT TRANSFER AREA WILL DECREASE. Results: a. The boil off rate decreases. b. Increases the liquid out temperature. c. Lowers the compressor suction pressure.
	4. AS THE COMPRESSOR AUTOMATICALLY BEGINS TO UNLOAD, THE EVAPORATOR PRESSURE CONTROLLER SHOULD BE PUT IN MANUAL AND THE VALVE OPENED. (THIS CAN ALSO BE ACCOMPLISHED BY SETTING THE EVAPORATOR PRESSURE CONTROLLER ON "NORMAL" SET POINT.) The low suction pressure would begin to close the evaporator pressure control valve even though the high VCM header pressure is calling for lower condensing temperature. (The vent compressor C-4 or C-5 will start or continue to run.)
_____ 5.	THE EVAPORATOR NOT IN SERVICE SHOULD ALSO BE PUT IN MANUAL AND THE VALVE OPENED, UNLESS THE EVAPORATOR IS TO BE USED WITH G-2 FOR HOLDING.

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6. SHUT DOWN THE COMPRESSOR.

The compressor will shut down automatically by the low compressor suction pressure switch or manually by turning the run mode switch to the "off" position.

7. THE VCM COOLING LOAD SHOULD THEN BE TAKEN OFF THE EVAPORATOR.

Make sure that high pressure on the storage tanks does not occur. If it should, use G-2 for holding.

8. USING G-2 FOR HOLDING, START SUCKING THE AMMONIA DOWN FROM G-3 THROUGH TUBING OFF OF THE SUCTION OF G-3.

9. WHEN THE SUCTION PRESSURE NO LONGER INCREASES, THE SYSTEM CAN BE ISOLATED AND BLOWN DOWN FOR NECESSARY MAINTENANCE.

The ammonia in the system should be isolated in the high pressure receiver.

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WRITTEN BY:
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5609-11 .SOP
EVAPORATOR OIL DRAINAGE

OPERATOR'S NAME: _____ DATE _____

CHECK	ACTION STEPS (Capital letters) and Comments (Small letter)
_____	1. OPEN THE EVAPORATOR DRAIN LINE TO THE OIL STILL.
-----	2. ALLOW THE OIL TO DRAIN UNTIL THE OIL STILL BEGINS TO FROST. The frost indicates that ammonia liquid has begun to enter the still.
_____	3. CLOSE THE EVAPORATOR DRAIN LINE.
_____	4. OPEN THE VALVE FROM THE OIL STILL TO THE COMPRESSOR SUCTION LINE. It takes about 1 day for the liquid ammonia in the still to flash off because the still does not contain a heating element.
_____	5. ISOLATE THE STILL FROM THE COMPRESSOR SUCTION LINE ONCE THE FROST HAS DISAPPEARED.
_____	6. PUMP THE OIL FROM A FULL STILL TO THE COMPRESSOR VIA ITS SUCTION LINE UNTIL THE STILL IS EMPTY. a. <u>Start-Up:</u> Open the pump discharge valve and push the pump start button. b. <u>Shutdown:</u> Push the pump stop button and close the pump discharge valve.

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