

WRITTEN BY: MJF

DATE: 1/90

3/9/3-9² m.b.

5605-035.SOP
FURNACE SHUTDOWN - ONE FURNACE

OPERATOR'S NAME: _____ DATE _____

CHECK	ACTION STEPS (Capital letters) and Comments (Small letter)
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- _____ 1. JOB SAFETY INSTRUCTIONS REVIEWED.
- _____ 2. INSURE THAT YOU ARE WEARING PROPER SAFETY EQUIPMENT.

If the shutdown of the furnace an emergency situation, e.g., a tube leak, then you will want to trip the furnace immediately. You will then need to take the feeds out of the furnace ASAP and start a nitrogen purge through the passes. (You may only have to do this to the pass with the leak.)

Purging the passes will cause nitrogen to go into the HCl system. This will cause problems with HCl consumers if the quantity of nitrogen is too great; therefore, the nitrogen purged through the quench tower must be minimized.

EMERGENCY SHUTDOWN

- _____ 3. TRIP THE FURNACE. This will cause the gas to be shut off and the snuffing steam to come on in the furnace. The furnace feed will not be affected.

IT MAY ONLY BE NECESSARY TO DO THE FOLLOWING STEPS ON ONE PASS.

- _____ 4. CLOSE THE FEED VALVE(S) TO THE FURNACE AND START A NITROGEN PURGE THROUGH THE PASS TO THE QUENCH TOWER. If there is a fire in the furnace, this will kill the feed to it and put nitrogen through the pass to clear it.

- _____ 5. IMMEDIATELY BLOCK THE SUPERVALVE(S). This is necessary to avoid putting too much nitrogen into the HCl system. It is hoped that by the time the supervalve(s) are blocked, most of the EDC in the furnace passes will have been blown into the quench tower.

- _____ 6. ONCE THE SUPERVALVE(S) IS BLOCKED, IMMEDIATELY SWITCH THE PURGES TO THE VENT HEADER. If EDC is remaining in the pass(es) it will condense in the vent header. You will have to continually check and drain the vent header boots.

IF ONLY ONE PASS WAS BLOCKED IN AND CLEARED, DO THE FOLLOWING TO CLEAR THE OTHER.

NORMAL SHUTDOWN OF ONE FURNACE

- _____ 3. LOWER GAS AND FEEDS IN STEPS AND COORDINATE

A. At this point you may want to bypass the furnace. Do not lower the feed flow lower than 15 GPM because the furnace to trip off.

B. Lower the outlet temperatures to where cracking has stop.

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(below 650 degrees). Watch the Quench Tower level closely because high feed flow and low outlet temps can cause flooding in the Quench Tower.

4. SHUT OFF NATURAL GAS.

5. ONCE THE OUTLET TEMPERATURES DROP BELOW 500 DEGREES, KILL THE FURNACE FEEDS, START A NITROGEN PURGE THROUGH THE PASSES INTO THE QUENCH TOWER AND IMMEDIATELY BLOCK THE SUPERVALVES. It is necessary to block the supervalves ASAP to prevent the quench tower from backing up into the furnace as well as to minimize the amount of nitrogen going to the quench tower.

6. ONCE THE SUPERVALVES ARE BLOCKED, IMMEDIATELY SWITCH THE PURGES TO THE VENT HEADER. If EDC is remaining in the passes, it will condense in the vent header. You will have to continually check and drain the vent header boots.

7. TAG OUT THE FURNACES ACCORDING TO SOP 5605-009.SOP. This will involve clearing the furnace feed piping loops one at a time on the north side of each furnace. This is to be done using hoses connected to the tar buggy. WARNING: The tar buggy must be open to the vent header while doing this. You will be using 200# nitrogen to blow the liquid out. The tar buggy SRV is set for 150#. You will need a female to female organic adaptor with a pressure gauge on it to monitor the pressure while doing this.

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