

WRITTEN BY: MJF,DS,CSG
APPROVED BY: MJF
DATE: 1-8-89 12/90, 12-71
HG

5605-010.SOP
QUENCH SYSTEM CLEARING

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. FIRST COMPLETE SOP 5605-041.SOP "QUENCH TOWER SHUTDOWN" AND REFERENCE 5605-002.SOP "SHUTTING DOWN FOR ANNUAL OUTAGE" PRIOR TO GOING TO STEP 4.
4. AT THIS POINT, THE SUPERVALVES AND QDOH RETURN TO THE QUENCH TOWER SHOULD BE BLOCKED AND THE TOWER SHOULD HAVE SOME LEVEL IN IT. WITH THE PRESSURE IN THE TOWER BELOW 100 PSIG, SLOWLY OPEN UP TO BOTH DOPP KETTLES. This should cause all the liquid to be dumped into the quench dopp system. The kettles will flood and overflow to the QDOH drum where the liquid will be pumped out to a designated EDC crude tank via the QDOH pump and EDC rework header.
5. INCREASE THE STEAM TO THE KETTLES. This should reduce the level in the kettles. Note: You will need to take several dumps to the tar buggy to remove the heavies otherwise, you may plug the kettles.
6. WHEN THE LIQUID IS GONE FROM THE QUENCH TOWER, PUT A NITROGEN PURGE INTO THE TOWER ON TOP OF THE PACKING. Let it blow out through the bottom of the Quench Tower, to the kettles, the condenser, and surge drum and into the vent header. Also let the purge go overhead through the Quench Tower vapor line to the Quench Condenser/Quench Liquor Drum and out the pump suction lines to the vent header. This system is extremely large and difficult to clear. There are numerous low points in this piping that need to be drained separately. It is very important to drain all of the liquid out of the entire system, hook up several nitrogen hoses, and to check the progress of the clearing frequently. Some of these low points where liquid pockets are known to exist are as follows:

Note: Use hoses to drain the EDC pockets to the QDOH system or tar buggy. We must minimize the amount of EDC drained to the pad. Exposure limits for EDC are now the same as VC.

Therefore, if some is drained, be sure and place the end of the organic hose into the pump pad drain and wear a comfo-II mask. Stay upwind of it, and check to make sure the area is clear of other personnel.

1. The seal loop around the Quench Condenser and QDOH condenser. These must be drained since it is normally liquid full.

SL 004239

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

2. The Quench Condenser drain line to the Quench Liquor Drum is sloped the wrong way. As such it will not drain completely into the Quench Liquor Drum like it should. There is a drain valve on the east end of the line underneath the piperack to allow draining this liquid pocket. Use a long extension ladder to access this valve.
3. The furnace feed SRV discharge line (horizontal run in the piperack) has two low pockets in the east/west piperack south of the Dopp Kettles. Bleed valves have been installed to drain the liquid out of these pockets also.
4. Blow the liquid out of the four furnace feed SRV discharge lines (ground level); which tie into the Quench Tower vapor line, into the tar buggy. This must be done prior to closing the block valves on the SRV discharge line so that no liquid will accumulate on top of the valves and make clearing the Quench Tower more difficult. Block the SRV discharge valves only after the top quench tower temperature is below the EDC saturation temperature for the pressure on the quench tower. This way we will be sure no more EDC will condense on top of the valves. These valves must be tagged to pull the Furnace Feed SRV's for testing.
5. Hook up hoses and drain the liquid out of the end boxes on each of the drain valves on the west end of the Quench Condensers.
6. With the quench tower reflux valve open, drain the liquid in that line to the QDOH tank. Then block the downstream side of the reflux LCV and drain and purge the section of the line upstream of the LCV. The pressure on the quench liquor pumps will have to be greater than that of the QDOH tank for the liquid to go. After this, set up a nitrogen purge from that bleed going backwards to the quench liquor pumps.
7. Blow and drain the QDOH return line back to the QDOH drum. Set up a nitrogen purge from the line at the quench tower.

_____ 7. AT THIS POINT, THE KETTLES SHOULD BE READY TO SHUT DOWN.
REFERENCE SOP 5605-012.SOP.

_____ 8. BLOCK AND TAG ALL LINES NEXT TO THE QUENCH TOWER. This is done so that the tower can be blinded for entry.

_____ 9. CONTINUE DEPRESSURIZING/PURGING THE TOWER TOP TO BOTTOM AS WELL AS PURGING FORWARD THROUGH THE VAPOR LINE THROUGH THE CONDENSER AND QUENCH LIQUOR TANK.

SL 004240

CONFIDENTIAL
Subject to Protective Order
of 14th Judicial District Court
No. 91-0145