

WRITTEN BY: CSG
APPROVED BY: MJF
DATE: 1/90 4-9²
H6.

5605-036.SOP
SHUTDOWN SYSTEM KEYS

CHECK	ACTION STEPS (Capital letters) and Comments (Small letters)
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Currently there are six keyed bypass switches in the Vinyl operator's area of responsibility. These keys control the following three different shut down systems:

1. Vapor detector SDS for the furnaces (2).
2. Low flow/high temperature SDS for the furnaces (2).
3. Vapor detector SDS for the SSVC system (1).
4. Product still SDS (1).

The use of these SDS bypass keys will be restricted to the approval of the Vinyl Lead Operator or a qualified member of supervision. These five keys will be labeled and kept on the key rack which has been mounted on the control room wall. Use of these keys will require proper approval, a notation in the logbook of the time the SDS was bypassed, the reason for their use, and the time that the SDS was returned to normal. While these are bypassed and the unit is running, the lead operator will be responsible for insuring that a responsible person remains in the control room.

The intent in making these keys less available is to prevent the immediate response of bypassing before evaluating the situation. We expect that normal use of these keys will be for maintenance and prooftesting.

In addition to these, the VC supervisor has control of the flame management system (FMS) bypass keys for each furnace. These keys bypass the FMS PLC's (located outside). The keys are normally kept in the supervisor's desk.

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5605-001.SOP

FREEZE PRECAUTIONS - VINYL OPERATOR

OPERATOR'S NAME: _____ DATE _____

CHECK	ACTION STEPS (Capital letters) and Comments (Small letters)
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1. JOB SAFETY INSTRUCTIONS REVIEWED.

2. INSURE THAT YOU ARE WEARING PROPER SAFETY EQUIPMENT.

GENERAL NOTE: ALL FREEZE PRECAUTION WATER THAT IS DRAINED TO THE PAD MUST BE STEAM STRIPPED AT A VERY HIGH COST. MINIMIZATION OF THIS WATER IS VERY IMPORTANT. THEREFORE, AS MANY LINES AS POSSIBLE HAVE BEEN ROUTED TO THE DITCH OR OFF THE PAD. ALSO, THESE HAVE BEEN ROUTED IN SUCH A WAY SO THAT THEY DO NOT CAUSE LARGE ICE SLICKS. ICE SHEETS ARE A CONFIRMED SAFETY HAZARD AND ARE TO BE AVOIDED. IF FREEZE PRECAUTIONS CAUSE SUCH A SLICK, REPORT IT TO SUPERVISION.

1. OPEN BLEED VALVES ON ALL SAFETY SHOWERS.

A. Furnace Area

- a. #V-1 Quench Tower, SW corner, supervalve deck.
- b. #V-2 Quench Dopp Kettles, NE corner, grade level.
- c. #V-3 Quench Dopp Kettles, NE corner, first deck.

Process Area

- a. #V-4 south end of stairs, grade level.
- b. #V-5 Secondary L.O. cooler, north side, grade level.
- c. #V-6 QDOH pumps, east side, grade level.
- d. #V-9 Neutralizer wash pump, NE side, grade level.
- e. #V-10 Product neutralizers, top deck.
- f. #V-27 Product neutralizers, NW corner, first deck.

Bullet Area

- a. #V-36 west side of bullets, grade level.
- b. #V-37 Top of shift bullets, east side, first deck.

2. Open the 1" angle bleed valve in order to drain any water on sprinkler deluge valves listed in (3). There is normally none. They can then be closed back off.

3. Crack open the 2" drain valves for freeze precautions. These valves are located directly above the 2" open ended drain pipe and they normally have hand wheels on them.

- a. DV-1 Furnace floor deluge.
- b. DV-2 Furnace floor deluge.
- c. DV-3 Hydroschild and VCM refrigeration area deluge.
- d. DV-4 VCM & EDC process area south deluge.
- e. DV-12, 13, 14 VCM shift storage deluge.

Note: For "hard" freeze conditions it will be necessary to wrap the deluge station with visqueen and turn a steam hose on inside the enclosure.

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4. Cooling Tower Exchangers MAKE CERTAIN THAT COOLING TOWER WATER IS FLOWING THROUGH ALL EQUIPMENT OR THAT IT IS COMPLETELY DRAINED. COMPLETELY DRAINED MEANS IT MUST BE DRAINED FROM THE LOWEST POINT.

NOTE: IF THE EQUIPMENT HAS LOST WATER CIRCULATION DUE TO FREEZING, IT WILL NOT ADEQUATELY DRAIN, THEREFORE, USE A STEAM HOSE TO THAW THE EQUIPMENT AND RE-ESTABLISH WATER FLOW.

- ☐ a. Primary lean oil cooler.
- ☐ b. Product still condenser.
- ☐ c. Caustic recirculation cooler
- ☐ d. VC York freon condensers (2)
- ☐ e. VC York oil coolers (2)
- ☐ f. Shift storage vent compressor head cooling system

NOTE: Simply disconnecting the tubing on the SSVC cooling system will not drain the water out. Take a nitrogen hose and manually blow the water out of the compressor going from water inlet to outlet. If you do not do this you will be making a \$20,000 mistake.

5. MAKE CERTAIN ALL VESSELS WITH STEAM OR CONDENSATE ON THEM ARE IN SERVICE OR DRAINED.

Equipment which use steam:

- ☐ a. VC Dopp kettle jackets (2)
- ☐ b. Stripper reboiler
- ☐ c. Product still reboiler

6. SLIGHTLY OPEN ALL UTILITY STEAM AND WATER DROPS AND ALLOW A SMALL FLOW. ALL WATER DROPS SHOULD BE CONNECTED BY TUBING TO A HEADER THAT DRAINS TO A DITCH.

Utility drops:

- ☐ a. West of Dopp kettles, at grade level
- ☐ b. North of quench tower, second level
- ☐ c. East end of fin-fan deck, near quench Dopp condenser.
- ☐ d. Utility water drop at I-beam, south of both Dopp kettles.
- ☐ e. Furnace feed pumps
- ☐ f. North of lower innercooler
- ☐ g. South of upper innercooler pumps
- ☐ h. Product still, east side, grade level
- ☐ i. #1 neutralizer, north side, grade level
- ☐ j. #1 neutralizer, north side, third level
- ☐ k. Product still condenser, bottom head, second level
- ☐ l. Shift bullets, west end, grade level
- ☐ m. Shift bullets, east end, first level

7. OPEN THE FOLLOWING BLEED VALVES ON WATER LINES IN THE FURNACE AREA.

- ☐ a. west side of the supervalve deck on the bottom of the 8" decoking water supply header just upstream of the 6" valve
- ☐ b. 1 1/2" water header up in the very west end of the piperack north of #1 furnace
- ☐ c. 1" valve pointing downward off of the end of the 8" decoking water supply header in the piperack at the NE corner of #1 furnace

8. AQUEOUS SYSTEMS. DRAIN ALL WATER OUT OF THIS EQUIPMENT WHEN IT IS NOT IN USE.

- _____ a. Water addition drum
- _____ b. Neutralizers that may have wash water in them
- _____ c. Neutralizer drain drum
- _____ d. Caustic storage drum
- _____ e. Sabine water supply line to neutralizer wash system
- _____ f. Sabine water supply line to neutralizer drain drum
- _____ g. Tip all firewater monitor nozzles down to drain water
- _____ h. Shut down the sanitary sewer pumps and drain the header to Plant C. Use a suck truck to empty the "honey pot" as needed.

9. FOR STEAM TRAPS THAT ARE NOT IN USE, CRACK OPEN THE STRAINER VALVES. DRAIN CONDENSATE FROM ANY DROPS WHICH ARE BYPASSED. MAKE SURE ALL IDLE STEAM LINES ARE DRAINED.

Steam trap strainers, Steam supply lines:

- _____ a. Stripper reboiler trap
- _____ b. Product still reboiler trap
- _____ c. VC Dopp kettles (2)
- _____ d. Shift storage compressor suction drum and suction line steam tracing if not in use
- _____ e. Open bleed valves on either the 45# or 175# steam header to stripper, whichever is not in use
- _____ f. Open bleed valve on 175# steam to product still if not in use
- _____ g. 175# steam header steam trap southeast of deluge valves #1, #2 and #3 only if the header is down
- _____ h. 45# steam header trap southeast of deluge valves #1, #2 and #3 only if the header is down
- _____ i. Steam traps at both snuffing steam stations only if not in use
- _____ j. Crack open drain valves on both snuffing steam lines, downstream of the automatic valves (normally left cracked open)

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