

STANDARD OPERATING PROCEDURE

rev. 5/91

REACTORS' AREA BYPASSING VAPORIZER STEAM TRAP
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CHECK	ACTION STEPS (All Caps)	COMMENTS (Below steps)
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There are two possibilities of having negative results as we bypass the steam trap to a vaporizer.

- 1) Blowing live steam through
- 2) Flooding the vaporizer steam chest

Both of them will create a feed imbalance due to the loss of organics. While flooding takes a while before we can see its results, blowing live steam effects can be noticed immediately. Depending on the reactor optimization, we could have disastrous results.

This procedure is intended to prevent incidents like the one on May 13, 1991 when the primary condenser and its piping suffered damage as direct result of bypassing the steam trap on #2 vaporizer. The following steps are to be performed in the order that they appear.

1. INFORM THE LEAD OPERATOR OF THE NEED TO HAVE A REACTOR QUALIFIED OPERATOR AT THE CONTROL BOARD WHILE IN THE PROCESS OF BYPASSING THE STEAM TRAP.

The person inside will watch over the reactor temperature, the vaporizer pressure, the steam flowrate to the vaporizer, the reactor vent flow, and any other indication that can signal any if conditions are changing. If at any time you observe a bed temperature increase cut back on oxygen take immediately.

2. CHECK LAST OXYGEN CONCENTRATION IN THE VENT.

Must be less than 3%. Take additional ~~vent~~ ^{CONFIDENTIAL:} samples if necessary to get an accurate ^{Subject to Protective Order} concentration. ^{of 14th Judicial District Court}
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3. CHECK ORGANICS FEED COMPOSITION.

This information will give you a better understanding about the significance of

changes in boilup. When Per concentration is above 20% a small reduction in organics feed equates to a greater imbalance in the reactor's feed since Per is very stable and "does not react". Per in the feed only helps in the reactor fluidization.

4. INCREASE THE HCL FLOW BY 2000 SCFH IF THE RATIO IS LESS THAN 2.5.

This will provide a buffer zone in the event of moderate boilup losses in the vaporizer. The net effect will be an increase in ratio. An acute loss will be signaled by a temperature increase and it will mandate a cut in oxygen take.

5. CUT BACK THE OXYGEN FLOW IF THE RATIO IS OVER 2.5.

The previous reasoning applies here, except that the ratio will decrease.

6. SLOWLY CLOSE THE STEAM TRAP BLOCK VALVE UNTIL YOU OBSERVE A SMALL DROP IN THE STEAM FLOW. AT THAT TIME START OPENING THE BYPASS VALVE AND CLOSING THE BLOCK VALVE SIMULTANEOUSLY UNTIL THE TRAP IS COMPLETELY ISOLATED.

You must pay close attention to the vaporizer chest pressure. The chest pressure must remain the same with the steam trap bypassed as it was when the trap was in service. Radio contact with the control room is a must.

7. TAG STEAM TRAP BLOCK VALVES PER TAGGING PROCEDURE.

8. HANG A NOTICE TAG BY EACH FEED CONTROLLER ON THE PANEL BOARD TO ALERT OTHERS OF THE EXISTING CONDITION.

Rate changes are not permitted while this condition exists.

9. LOG THIS CONDITION IN THE OPERATION LOGBOOK.

10. CHECK CRUDE COLOR FOR FEED RATIO VARIATIONS.

A change in color is a vital sign of the reactor performance. A dark crude indicates excessive burning. This requires an additional cut in oxygen feed.

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