

(TriEthane 2 FURNACE : BAKE OUT PROCEDURE)

PRIOR TO STARTING THE FURNACE BAKE OUT, ALL PRE-OP WORK ON THE FURNACE MUST BE COMPLETED. AS PART OF THE PRE-OP WORK, THE FURNACE WAS SET UP FOR DECOKING AND SHOULD REMAIN THIS WAY DURING THE BAKE OUT PERIOD.

- 1.) CHECK TO MAKE SURE THE FURNACE OUTLETS ARE LINED UP TO THE DECOKING HEADER AND 175 PSIG DECOKING STEAM IS AVAILABLE.
- 2.) BEGIN STEAM FLOW THROUGH THE FURNACE TUBES AT THE LOWEST FLOW POSSIBLE CONSISTENT WITH THE PREVENTION OF OVER - HEATING THE FURNACE TUBES. THE PURPOSE OF THE STEAM FLOW IS TO PREVENT THE FURNACE TUBES FROM OVERHEATING DURING THE SUBSEQUENT BAKE OUT OPERATION. AT NO TIME SHOULD THE TUBE METAL TEMPERATURES EXCEED DESIGN LIMITATIONS. IF DURING THE BAKEOUT, THE TUBE METAL TEMPERATURES RISES ABOVE 1100 DEGREES F., INCREASE THE STEAM FLOW TO BOTH PASSES.

NOTE: AS A BEGINNING GUIDE, ADJUST THE STEAM FLOWS TO APPROXIMATELY 1500 TO 2000 LBS/PER HR PER PASS TO START. DO NOT EXCEED A STEAM FLOW OF 9300 LB/HR. UNLESS OTHERWISE NOTIFIED.

- 3.) LIGHT ALL THE FURNACE PILOTS. IF TIME IS AVAILABLE, ALLOW THE PILOTS TO BURN FOR 24 HOURS PRIOR TO LIGHTING THE MAIN BURNERS. THIS CAN SERVE AS A PRELIMINARY TO DRYING OUT AND WILL HELP DRY OUT THE BURNER BLOCKS.
- 4.) BEGIN LIGHTING THE FURNACE BURNERS. DO NOT ALLOW THE BRIDGEWALL TEMPERATURE TO EXCEED 500 F AT THIS TIME, BY NOT LIGHTING ALL THE BURNERS IF NECESSARY. INCREASE THE STEAM FLOW IF THE TUBE METAL TEMPERATURES RISE ABOVE 1200 F.
- 5.) ONCE ALL BURNERS ARE LIT, BEGIN INCREASING THE FIRING RATE OF THE FURNACE UNTIL THE BRIDGEWALL TEMPERATURE REACHES 500 F MAX. INCREASE THE NATURAL GAS FLOW AT A RATE TO ATTAIN A 50 F MAX RISE PER HOUR IN BRIDGEWALL TEMPERATURE. THE TEMPERATURE INCREASE SHOULD BE SPREAD OUT EVENLY OVER THE FULL HOUR BY MAKING FIRING RATE ADJUSTMENTS EVERY TEN MINUTES. THIS WILL PREVENT THE REFRACTORY FROM EXPERIENCING SUDDEN TEMPERATURE RISES AND WILL INSURE A GRADUAL TEMPERATURE INCREASE.

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- 6.) ONCE THE BRIDGEWALL TEMPERATURE REACHES APPROXIMATELY 500 F, HOLD THAT TEMPERATURE FOR 8 TO 12 HOURS..
- 7.) AFTER HOLDING A 500 F BRIDGEWALL TEMPERATURE FOR 8 TO 12 HOURS, BEGIN INCREASING THE FURNACE FIRING AS DESCRIBED IN STEP 5 (50.F MAX PER HOUR) UNTIL THE BRIDGEWALL TEMPERATURE REACHES 1000 F . CHECK THE TUBE METAL TEMPERATURES AND INCREASE THE STEAM FLOW AS NECESSARY..
- 8.) ONCE THE BRIDGEWALL TEMPERATURE REACHES 1000 F HOLD IT THERE FOR 8 HOURS..
- 9.) UPON COMPLETION OF THE 8 HOUR HOLD PERIOD AT THE 1000 F BRIDGEWALL TEMPERATURE , BEGIN DECREASING THE FIRING RATE TO ATTAIN A 100 F DROP IN BRIDGEWALL TEMPERATURE PER HOUR..
- 10.) ONCE THE BRIDGEWALL TEMPERATURE DROPS BELOW 600 F, ALL BURNERS MAY BE SHUTDOWN AND THE FURNACE ALLOWED TO COOL WITH THE DAMPERS AND ACCESS DOORS CLOSED . STEAM FLOW THROUGH THE FURNACE TUBES CAN BE DIS - CONTINUED AT THIS TIME..

NOTE : IMPORTANT : DURING THE BAKEOUT OPERATION, PERIODIC OBSERVATIONS MUST BE MADE AND PRECAUTIONS TAKEN TO PREVENT THERMAL SHOCK OR STEAMING WITHIN THE REFRACTORIES WHICH MAY SPALL OR CRACK THEM . ADDITIONAL HOLDING TIME AT THE EXISTING TEMPERATURE SHOULD BE HELD WHEN EVER MOISTURE IS EVIDENT.

AVOID ANY SPOT CONCENTRATION OF HEAT BY SPREADING OUT AND STAGGERING THE HEAT INPUT . SET THE FUEL PRESSURE AT A MINIMUM LEVEL WHICH WILL INSURE STABLE BURNER OPERATION WHILE PUTTING THE MAXIMUM NUMBER OF BURNERS INTO OPERATION AND A MORE UNIFORM HEAT DISTRIBUTION....

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