

# Powder Cure Oven Upgrade

08/12/07

Bogh Industries LLC has completed a rework and upgrade of a powder cure oven located in Washington. The oven is an older panel oven installed in 1988. The oven had, over the years, experienced burnout in the burner box due to rich flame impinging the wall. Several repairs had been completed but a new repair was required due to the condition of the burner and burner box. The burner also showed significant damage due to burn back. (Wiring in a junction box was found to be melted together).



The picture shows the old burner with the heat damaged wall.



This picture show the inside of the burner box.

The vestibules on the machine were allowing air to enter the chamber and a significant heat balance problem existed both inside the oven and in the plant where the heat and fumes influenced the work environment in the plant.



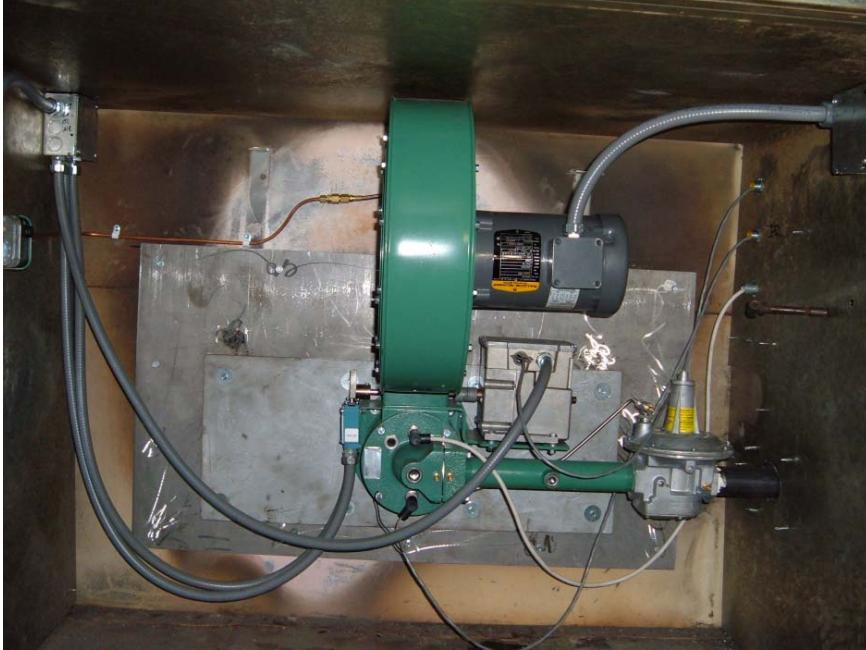
The left picture shows the old vestibules with cloth sealing of the entry ways to the oven. On the right hand picture is the new sheet metal added including a hood which will be connected to the outside.

Bogh Industries installed as a turn key project. The plants maintenance personnel also provided help installing new burner and burner train plus two new vestibules and a modification to the last vestibule by replacing the cloth materials with sheet metal. Three new pieces of duct were installed inside the oven to eliminate a 120F uniformity problem. Balancing dampers were also installed to be able to better balance the oven's airflow.

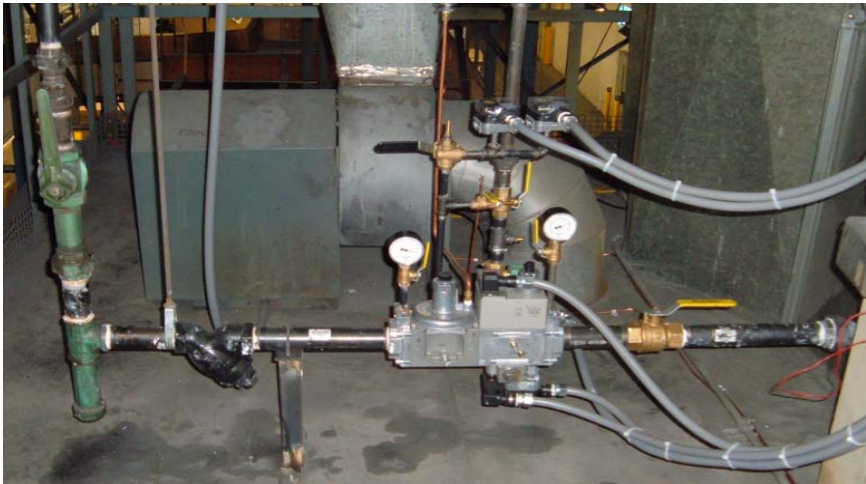
The new burner heated the oven up faster than the old and uniformity was improved to a state such that the line speed could be increased by 20-30%

In addition to the mechanical upgrades a full electrical upgrade was completed with new conduit control wiring and a control cabinet built with safety separation between the 480V and control power side of the cabinet. The pictures below shows the components installed. The whole repair and upgrade took 11 days from start to finish. This included the weekend.

The scope of work was at most times on old ovens larger than anticipated but good cooperation between the plant and additional effort by the involved personnel got the job done in a timely manner.



The new burner installed and repairs to the outside wall completed.



The new simplified modular gas train.



The picture shows the old gas train.



The old control cabinet.



The new double door control cabinet.