

## COMBUSTION / BURNER BUSINESS

CASE HISTORY #102025-4



### TOTAL TURNKEY VISION LN BURNER RETROFIT SOLUTION

**CUSTOMER:** Major U.S. Bio-Refining Company in South Dakota, USA

**CHALLENGE:** A major Bio-Refining customer is utilizing multiple large steam boilers in their production environment firing natural gas. One of the company's corporate goals is to reduce greenhouse gas emission by 20% and improve efficiency with latest technology.

Specific performance improvements the customer wanted addressed were:

- Reduce CO<sub>2</sub> emissions from boilers by reducing amount of excess air (EA) & flue gas recirculation (FGR) while maintaining existing NO<sub>x</sub> & CO emissions.
- Reduce electric power consumption by adding Variable Frequency Drive (VFD) for combustion air fan
- Increase boiler capacity by 10%

**SOLUTION:** Provide total turnkey combustion solution of a new VISION LN burner system which included:

- Latest technology VISION Low NO<sub>x</sub> burner that is upgradable to future Ultra Low NO<sub>x</sub>
- New VFD for the combustion air fan
- Upgrade control to optimize combustion for higher efficiency

**RESULTS:**

- 1- Satisfied Customer – New VISION burner was installed and commissioned under budget and on schedule to meet turnaround schedule.
- 2- Superior Performance – Reduced Excess Air and FGR quantity by 50%. Reduced motor power consumption by 30%. Reduced NO<sub>x</sub> & CO by 10%.
- 3- The redesigned burner combustion system upgrade increased boiler capacity by over 10% resulting in 25% percent reduction in overall greenhouse gas emissions.