

INDECK[®]

Water Tube Waste Heat Boiler Upgrade



Superheated waste heat recovery Keystone 'O' boiler and economizer after 25 years of service

Problem & Solution

Long term use of the waste heat recovery boiler receiving corrosive refinery waste gas led to cold end corrosion, pitting, and casing seal leaks. The main boiler tube bank withstood the test of time; however, cyclic operation led to ash hopper gas leaking into the boiler casing. Improper field repairs exacerbated the problem which caused large cracks in the seal casing to develop.

Indeck Keystone Energy provided the solution! We delivered a new ash hopper and structural steel base designed to minimize thermal stresses, replacement welded membrane outer wall tubes, casing seal plates, screen tubes, superheater elements, economizer, and a new feedwater preheater designed to minimize cold end corrosion.

Features & Benefits

- Reuse of steam drum, mud drum, and free standing convection tube bank.
- Improved ash hopper design minimizes thermal growth and stresses imposed on the boiler casing seal joints.
- Casing seal plates equipped with "Vee-breathers" to allow the seal casing to expand and contract minimizing thermal stresses caused at the casing weld seams.
- New feedwater preheater added ability to maintain economizer operation above the waste gas acid dew point and prevent acid corrosion.
- An updated shop assembled bare tube economizer was built to fit the existing ducting for easy installation.
- A replica superheater was built with the addition of shop fabricated integral supports saving installation time and difficulty.

End Result

The end result is a refurbished refinery waste heat recovery boiler with design enhancements that will minimize cold end corrosion, minimize seal casing wear and tear, and minimize maintenance while greatly enhancing boiler operation and efficiency.

Please contact Indeck to discuss a project for your boiler.

For more information,
please contact:

Indeck Keystone Energy, LLC.

Aftermarket Sales & Service
5340 Fryling Road, Suite 200
Erie, PA 16510-4672
814.452.6421

www.indeck-keystone.com

24-Hour Availability
1.800.322.5995