

Project Profile: GRAPHIC PACKAGING

SouthernEnvironmental.com

Graphic Packaging Inc.
Augusta, GA

Challenge:

Achieve desired performance and improve reliability while limiting rebuild scope to reuse significant existing components. The existing ESP utilized narrow collecting electrode spacing and wire discharge electrodes installed in frames. The customer requested an upgrade to rigid discharge electrodes while maintaining the existing collecting electrodes in two of three fields and the existing tumbling hammer rappers throughout the ESP.

Southern Environmental's Solution:

SEI installed its ELEX rigid discharge electrodes in the existing high voltage frames. The narrow profile of the ELEX electrode allowed this to be accomplished while maintaining the existing CE spacing of 9" in the first field and 12" in the second and third fields. A physical model study ensured proper flow characteristics throughout the ESP and, coupled with damper replacement, achieved significant system pressure loss reduction.

Project Duration:

- PO Received: May 2018
- Materials Delivered: September 2018
- Construction Outage: October 2018
- Start up: November 2018

Detail Engineering:

- Structural
- Mechanical
- Electrical
- Physical Model Study

Fabrication and Construction Services:

- Structural Steel
- ESP Component Fabrication and Installation
- Electrical Design and Partial Supply
- Ductwork Fabrication and Erection
- Project Management
- Site Management
- Insulation and Lagging

Scope of Work:

Southern Environmental, Inc. provided detailed engineering, material supply, fabrication, construction and start-up services to partially rebuild the Unit #3 recovery ESP. The work was performed in 2018. The limited rebuild was designed based on specific customer requirements regarding scope. The unit had a combination of new internal components as well as reused some existing components. Gas-flow distribution devices were dictated by model study and supplied to correct significant flow issues. New inlet duct elbows were designed and fabricated along with supplying both inlet and outlet stainless steel, zero leak dampers. Material provided included structural steel, new collecting electrodes in the first field, ELEX rigid discharge electrodes in all fields, inlet and outlet dampers, duct elbows, gas flow distribution devices, power supplies, purge air system, tumbling hammer system components, rapper controller system, sonic horns.



Performance Guarantee:

Dual Chamber Operation: <15% opacity

Single Chamber Operation: <20% opacity

Average Opacity During Testing: 9%

		Dual Chamber Operation	Single Chamber Operation
Boiler Load	MMlbs/day	6.38	4
ESP Inlet Gas Volume	acfm	565,000	142,150
ESP Inlet Temperature	°F	409	365

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