

# Project Profile: Craven County Wood Energy



## CMS Energy North Carolina

### Challenge:

Craven County Wood Energy burns a combination of wood and poultry waste for steam production to generate about 50MW of power for sale to the grid. The customer desired to increase the percentage of poultry litter in their fuel blend, however this increase led to high opacity with the existing ESP. In addition, Dry Sorbent Injection was required to mitigate HCl emissions associated with the increase in poultry litter combustion.

### Southern Environmental's Solution:

Southern Environmental, Inc. upgraded the first two (2) fields of the existing three (3) field ESP utilizing its SEI/ELEX rigid discharge electrodes (RDEs). The first mechanical field was sectionalized into two (2) electrical fields and equipped with RDEs featuring opposed emitter tabs to provide the current necessary to overcome space charge. The second field received RDEs with staggered emitter tabs and a new Switch Mode Power Supply to provide the necessary voltage for efficient collection.

### Scope of Work:

Southern Environmental, Inc provided detail engineering and design, equipment supply, fabrication, mechanical construction, field technical oversight, commissioning and start-up services.

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### Project Duration:

- PO Received-November 20, 2019
- Materials delivered to site: April 17, 2020
- Start up: July 31, 2020

### Detail Engineering:

- Structural
- Mechanical
- Electrical

### Fabrication and Construction Services:

- New customized SEI/ELEX Rigid Discharge Electrodes, with mounting, alignment, and stabilization hardware.
- New Opzel Collecting Electrodes, with mounting and alignment hardware.
- New high-frequency Switch-Mode Power Supply.
- Demolition of existing ESP internals
- Mechanical installation of all supplied ESP components
- Construction technical supervision for the duration of the outage.

### Performance Guarantee:

- Opacity: 20%
- Filterable Particulate Matter Emission: 0.04lb/mmBtu

