

# Chalk Point, Dickerson and Morgantown Wet Flue Gas Desulfurization Systems

Project Case History

GenOn Energy, Inc.  
Houston, Texas

## Overview

Babcock & Wilcox (B&W) supplied wet flue gas desulfurization (FGD) equipment to provide sulfur dioxide (SO<sub>2</sub>) removal efficiency of 98% of total gas flow. This design features a combination of components to provide a high level of reliability and removal efficiencies. These include a milling system, absorber towers, trays, spray headers, nozzles, mist eliminators, wash headers and forced oxidation.

## Boiler/Plant Information

- Chalk Point Units 1 & 2:  
650 MW total
- Dickerson Units 1, 2 & 3:  
540 MW total
- Morgantown Units 1 & 2:  
1200 MW total
- Boiler Type: Pulverized coal-fired
- Design Fuel: Bituminous

## Project Summary

- Engineering and procurement of wet flue gas desulfurization systems for 7 units at 3 plants
- System to remove 98% of the entering SO<sub>2</sub>
- Type: Limestone forced oxidation
- Project Awarded: 2007
- Operation Date: 2009



Chalk Point



Dickerson



Morgantown

(Continued on reverse side)

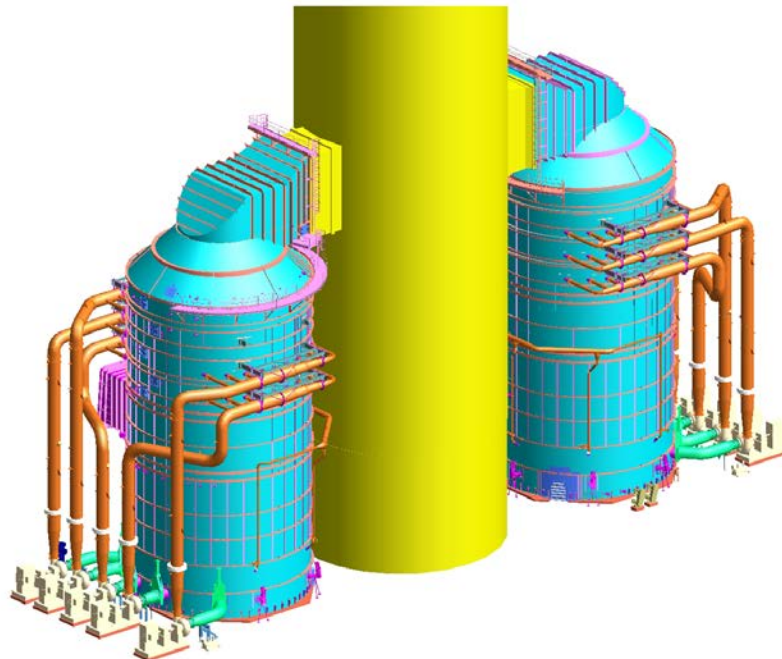
## B&W Scope

- Limestone silos, weigh feeders, and milling system
- Limestone slurry feed pumps
- Chalk Point: One absorber module
- Dickerson: One absorber module
- Morgantown: Two absorber modules
- Absorber internals, including trays, spray headers and nozzles
- Absorber recirculation pumps
- Mist eliminators and wash headers

- Absorber inlets and awnings
- Absorber outlet hoods
- Emergency quench water header and grid design
- Forced oxidation systems including oxidation air compressors and injection lances
- Side entry absorber agitators
- Absorption Plus (Hg)<sup>™</sup> enhanced mercury removal system
- Absorber bleed pumps
- Make-up water pumps and mist eliminator wash pump

## Results

- Successful startup and commissioning of wet FGD retrofit projects completed in 4th quarter, 2009
- Performance testing successfully passed in 2nd quarter, 2010



Computer generated three-dimensional projection of absorber modules at Morgantown.

### Babcock & Wilcox

1200 E Market Street, Suite 650  
Akron, Ohio, U.S.A. 44305  
Phone: +1 330.753.4511

[www.babcock.com](http://www.babcock.com)    

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