

# Roxboro Station Units 1 - 4

## Wet Flue Gas Desulfurization Systems

Project Case History

### Progress Energy

Roxboro, North Carolina

Babcock & Wilcox (B&W) wet flue gas desulfurization (FGD) systems feature a combination of design components to provide a high level of reliability and removal efficiencies. These include B&W's signature tray tower design to provide superior gas to liquid contact and uniform flow distribution through the absorber spray zones; its patented inlet awning, interspatial headers to reduce absorber height, pump power requirements, and internal support costs; forced oxidation system; and advanced mist eliminators.

#### Boiler/Plant Information

- 3 x 700 MW (Units 2, 3 and 4),  
1 x 400 MW (Unit 1)
- Boiler type: Pulverized coal fired
- Design fuel: Bituminous

- Additional environmental equipment: Electrostatic precipitator, selective catalytic reduction system, and waste water treatment system

#### Project Summary

- Engineering, procurement and commissioning of a wet flue gas desulfurization system
- System designed to remove 97% of the entering SO<sub>2</sub> without organic acid addition
- Type: Limestone forced oxidation with gypsum byproduct
- Commercial operation: April 2007 (Unit 2), December 2007 (Unit 4), May 2008 (Unit 3), December 2008 (Unit 1)

#### B&W PGG Scope

- Four (4) wet FGD absorbers – functional design by B&W, supply by Stebbins
- Three (3) limestone ball mill systems (2 operating, 1 spare)
- Four (4) vacuum filter systems (3 operating, 1 spare)

#### Results

The project met engineering, fabrication and delivery objectives.



**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)    

The information contained herein is provided for general information purposes only and is not intended nor to be construed as a warranty, an offer, or any representation of contractual or other legal responsibility.



RENEWABLE | ENVIRONMENTAL | THERMAL

Established in 1867, Babcock & Wilcox is a global leader in renewable, environmental and thermal technologies and services for power and industrial applications.

For more information or to contact us, visit our website at [www.babcock.com](http://www.babcock.com).