Lansing Generating Station, Unit 4

Alliant Energy

Lansing, Iowa, USA

Plant Description

Pre-retrofit equipment

- 270 MW boiler
- Hot-side electrostatic precipitator (ESP)
- Selective catalytic reduction (SCR)
- Powdered activated carbon (PAC)
- Fabric filter

Contract Order

2012

Commercial Operation

2015

B&W Project Description

The Babcock & Wilcox Company (B&W) integrated a circulating dry scrubber (CDS) system upstream of an existing fabric filter to control SO_2, H_2SO_4, HCl, HF, mercury, and particulate matter emissions. The CDS system was designed to control emissions from burning either Powder River Basin (PRB) coal alone or with a blend of bituminous coal, achieving SO_2 removal efficiency up to 98%.

The new CDS system was integrated into the existing flue work structure in approximately 6 months, while Babcock & Wilcox Construction Co., Inc., a subsidiary of B&W, completed the tie-in outage in less than 6 weeks. After approximately 3 months of operation, the system was performance tested and passed all guarantees (emissions and consumables) and completed the reliability demonstration shortly thereafter.

Scope

- Design, supply, erection, training and commissioning
- Circulating dry scrubber; 6 venturi design
- Byproduct solids recirculation system; 6 solids injection locations (below the venturis)
- Hydrated lime feed system
- Humidification water system; 6 water injection lances (above the venturis)
- Gas recirculation system
- Fabric filter upgrades
- Byproduct handling equipment

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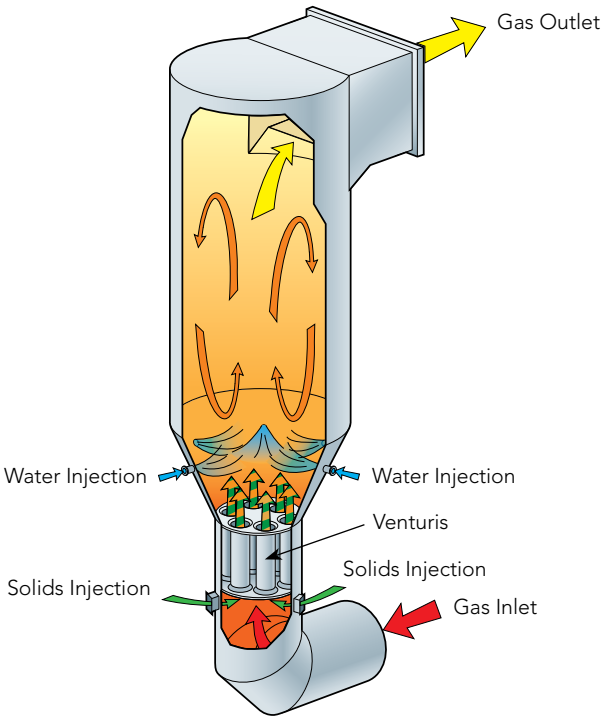
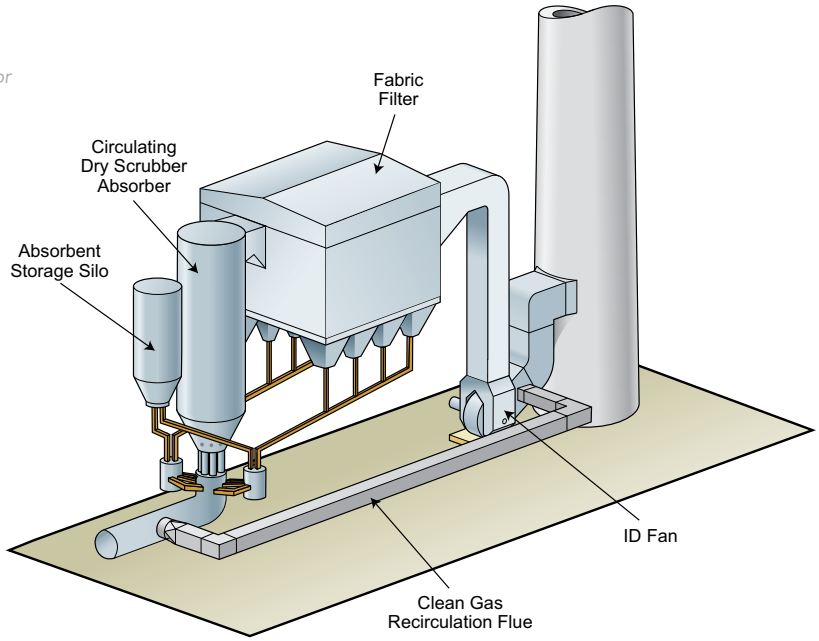


The compact CDS absorber module is ideal for plant locations with limited space.

B&W CDS Technology Benefits

B&W optimizes its circulating dry scrubber design for each application. This approach provides the end user with an optimized system to reduce long-term power and lime consumption, while providing reliable operation across wide load and fuel ranges. Plant owners benefit from lower operation and maintenance costs.



A circulating dry scrubber is integrated with a fabric filter for effective SO_x, H_2SO_4, HCl, HF, mercury, and particulate emissions control.

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