



AirPol Double Alkali FGD System Solves Emission Problems on Three Coal-Fired Boilers

CASE HISTORY

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CLIENT:

Grissom Air Force Base, Peru, Indiana.

PROBLEM:

The Air Force Base was faced with stringent Indiana State particulate and SO₂ emissions codes for a new coal-fired boiler and two existing coal-fired boilers which are located in the Alter Heating Plant. The new boiler is rated at 65,000 lbs./hr. of steam, the two smaller boilers at 40,000 lbs./hr. each of steam for a total of 145,000 lbs./hr. of steam. Together they burn 17,000 lbs./hr. of coal containing about 2.5 to 4.5% sulfur.

SOLUTION:

AirPol designed and installed a turnkey "Double Alkali" Flue Gas Desulfurization (FGD) scrubber system sized to handle the emissions of all three boilers. The system is designed to handle the gas flow of 121,000 CFM at 517°F. There are two units operating in parallel and featuring the regenerative Double Alkali Process to minimize the alkali chemical additions.

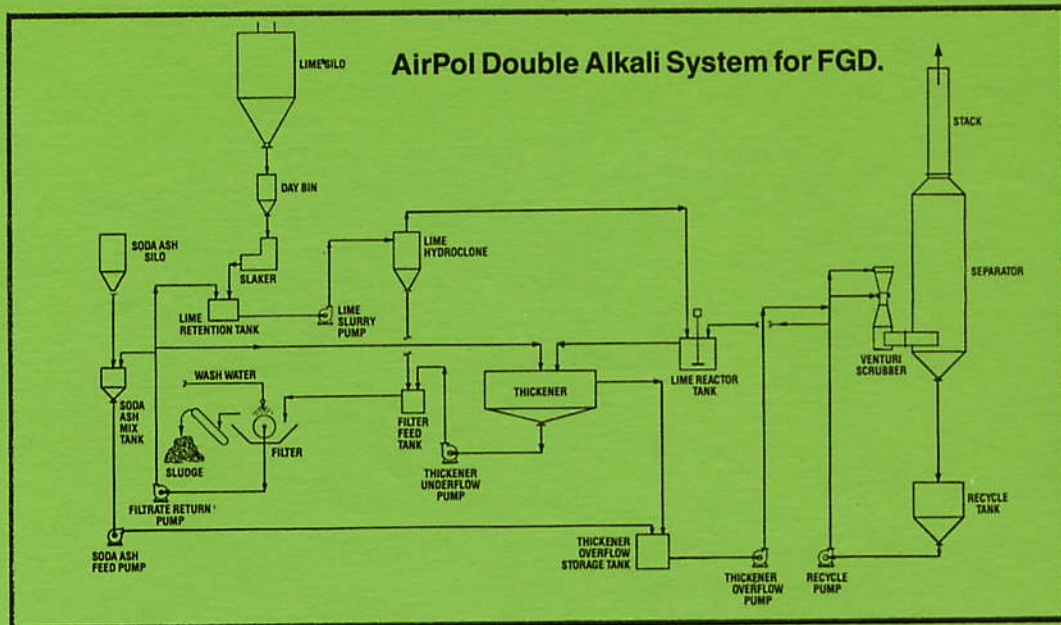
A dewatering system is employed for thickening and filtering to produce a disposable dry-cake product, consisting of ash and neutralized chemicals, which is removed and used for landfill. AirPol's double alkali process is a unique system for the removal of SO₂ which features high reliability, maximum efficiency and lower chemical costs.

In this process, SO₂ is effectively absorbed from flue gases using highly soluble and extremely reactive alkalis such as sodium hydroxide or sodium carbonate. The most important feature of the AirPol process is the external, rather than the internal, treatment of lime with the absorbing liquor to regenerate caustic for continual use to remove SO₂.



RESULT:

The AirPol system has been on-stream since 1980. The system tested at 0.146 lbs. of particulate per million BTU and 0.377 lbs. of SO₂ per million BTU, enabling the Air Force Base to easily meet the Indiana code requirements of 0.171 lbs. of particulate per million BTU and 1.2 lbs. of SO₂ per million BTU.



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