

Case Study: Garlock Industrial Hose w/ ABRA-LINE® for Discharge - Power Generation



INDUSTRY

Power Generation

CUSTOMER

Power Generating Station

BACKGROUND

To comply with EPA regulations, coal burning power plants utilize a scrubber system to remove pollutants (SO², HCL, Hg and other flue gases) from emissions using absorption. The scrubber utilizes an activated carbon injection system (ACI) to reduce mercury emissions from boiler flue gases. The powder activated carbon (PAC) is injected into the flue gas ductwork and dispersed into the flue gas stream absorbing the vaporized mercury from the flue gas.

CHALLENGES FACED

The plant was injecting the carbon into the scrubber using gum rubber hoses that were lasting less than 8 weeks. The abrasive nature of the powdered carbon was causing the gum rubber tube to wear prematurely. The power plant was purchasing and replacing the hose every 5-8 weeks and was looking for a longer lasting, more robust hose to increase their efficiency. The maintenance team at the plant tried several different style hoses with the hopes of increasing up time including a robust sandblast hose with no success.

OPERATING CONDITIONS

Size: 1.000" ID x 16" & 1.000" ID x 60.000"

Temperature: Ambient

Application: Powder Activated Carbon (PAC) injection system

Media: Power Activated Carbon

Pressure: 5-10 PSI

SOLUTION AND BENEFITS

Garlock offered the power plant two Garlock Industrial Hose prototypes, manufactured with Garlock's proprietary ABRA-LINE® liner. This hose is designed to handle the discharge of highly abrasive media where additional service life is desired making it an ideal alternative for the powder activated carbon hose. The ultra-wear resistant yellow ABRA-LINE® tube made it easy for the customer to internally inspect the hose for wear and degradation. The hose was installed in February of 2019 with a service life target of 8 weeks. Feedback from the plant in January of 2020 was that the original prototype hose was still installed, far exceeding the service life expectations. The plant plans to convert all their powder activated carbon hose to Garlock Industrial Hose, soon.

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