

FGD Absorber Tank Agitator Sealing

Rotating Equipment Sealing Solutions

Power Chesterton 442 Split Seals, SpiralTrac & ISS Case Study 007 RE

Challenge

To remove sulfur dioxide (SO_2) from exhaust flue gases of fossil-fuel power plants, flue gas desulfurization (FGD) technology is used.

In one coal-fired plant, a 3-4% lime solution was used in absorber tank to capture and neutralize the particulate and SO_2 gases from escaping into the atmosphere. Agitators are used to keep the lime slurry from settling in the absorber tanks.

The agitators were sealed with cartridge seals and the abrasive lime slurry would cause premature seal failure. Absorber tanks would have to be drained and the mixers removed to repair the seals. The plant wanted a more reliable system.

Solution

Chesterton offered a unique solution to enhance sealing reliability, reduce dilution of the lime slurry, as well as eliminate the need to empty the absorber tanks and to remove the mixers.

Chesterton 442[™] Spit Seals were used to seal the agitators. A SpiralTrac[™] environmental controller was fitted internally and an Chesterton ISS Safety Seal was also installed as a secondary static sealing device.

Results

The coal-fired facility is very pleased with the increased sealing reliability. This unique sealing system offers simplified repair abilities!

- The Chesterton SpiralTrac environmental controller gives more reliable sealing as it expels the solids from the stuffing box.
- The Chesterton 442 Split Mechanical Seal offers faster seal replacement (2 hours instead of 8) at lower cost.
- The Chesterton ISS Safety Seal eliminates need to empty the absorber tank which makes faster seal replacement possible.



Chesterton ISS Safety Seal.



Chesterton 442 Split Seal and ISS mounted on agitator.



Chesterton 442 Split Mechanical Seal.

SpiralTrac[™] is a trademark of EnviroSeal Engineering Products Limited.

Technical data reflects results of laboratory tests and is intended to indicate general characteristics only.

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