Patent Search

Invention Title	AN OPTIMAL SORBENT INJECTION LANCE WITH MULTIPLE ARMS TO EVENLY DISTRIBUTE (MIXING) THE PARTICLES ACROSS THE DUCT
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Abstract:

ABSTRACT Dry Sorbent Injection(DSI) is a mature and low capital technology for flue gas pollution control. DSI have traditionally used sorbent injection lances that pro the flue gas duct to facilitate mixing between the sorbent and flue gas. Standard injection lance designs typically have an opening at the end for sorbent to perpendic into main flue gas stream. While traditional DSI system have met the required reduction levels, due to the number of these systems already installed, there is a keen reducing the costs associated with operating these systems, both with respect to sorbent usage and maintenance. In our invention to overcome the problem associat running cost and maintenance, A sorbent injection lance for feeding the treating agent into a flue gas treatment system which consist of flue gas duct a treating agen the invention is having a central header and multiple arms on the half of the periphery of the central header, which is inserted into the flue gas duct. Use of multiple nozzles aid in evenly distributing the particles across the flue gas duct. Multiple arms are positioned in such a way that the particle are injected across all cross sectio duct. Sorbent injection rates can be reduced by this invention with less maintenance cost. It can cater also the variable operating parameters of boilers. As the invent with multiple arms the need for exact positioning of the lance is not dictated. The invention not only improves mixing, but also allows more operational flexibility, pro enhanced control to optimize the overall performance through various load ranges, together with minimized routine maintenance and operational issues caused by injection lance design. Typically the invention saves about 30 percent of sorbent from conventional design. This invention can be applied up to 300 MW of power boil process boilers

Complete Specification

CLAIMS
We claim
[Claim 1]
An Optimal Sorbent injection lance with central header and multiple arms
[Claim 2]
Multiple arms in the injection header are on the half of the periphery of the central header
[Claim 3]
Multiple arms are arranged in such a way it forms a cluster, when viewing from top
[Claim 4]
Multiple arms are arranged at various interval or at different level in the central header.
[Claim 5]
The invention not only improves mixing, but also allows more operational

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