



Investigation of different measures to reduce Hg emission from wet flue gas desulphurisation

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Understanding the detailed behaviour of Hg and its compounds in the slurry of wet FGD is needed to minimise Hg emission and prevent its re-emission. There are different possibilities to control Hg emission from the wet FGDs such as changing the operating parameters, using different additives or controlling sulphite concentration in the slurry. Each of these methods influences the chemical reactions involving Hg-compounds and the share of Hg in different phases existing in the wet FGD. Depending on the coal composition, combustion parameters and the flue gas path, the flue gas matrix differs, which results in a specific and unique scrubber composition. Therefore, it is important to check the influence of each method individually with different slurry compositions to gain a better understanding on the chemical reactions related to Hg-compounds. Within the proposed paper, experimental results of a continuous lab-scale wet FGD are presented, revealing the impact of using different additives on Hg emissions. The study gives an overview on using different additives in several synthetic slurries, in order to find a relation between the efficiency of the additives and the composition of the slurry. Investigating the share of Hg in filtrate and gypsum in each case helps the better understanding of the involved reactions.

