



Mercury re-emission from lignite-fired power plant – full scale tests

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This presentation discuss results on mercury behavior, especially its huge re-emission (both forms Hg^0 and Hg^{2+}) in lignite-fired power station. Tests were performed in in full-scale lignite-fired power plant located in Europe. Presented results involve collection of lignite power plant samples (liquid, solid, gas) and different laboratory chemical analyses in order to try understand the mechanism of mercury re-emission from wet flue gas desulfurization system (WFGD) installed in the considered power plant. Results were very unusual. It was noticed that 67-80 % of total inlet mercury concentration left WFGD scrubber and oxidized form of mercury (Hg^{2+}) was the main form of emitted mercury. What's more, results show that mercury was found in very high concentration ($10 \mu\text{g/g}$) (range: ppm) with the WFGD solid byproducts, whereas liquid phase contains $1 \mu\text{g/l}$ only (range: ppb). Authors took an effort to understand that unusual situation met in lignite-fired power plant and tried to find the explanation confronting this with literature review.

