

CAPTURE OF MERCURY BY VIRGIN AND IMPREGNATED ACTIVATED CARBON IN COAL-FIRED POWER PLANT

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Comparative experimental adsorption tests on field tests were performed with virgin and KI-impregnated activated carbon. In previous study, 5% KI-impregnated activated carbon was selected to compare capture performance with virgin activated carbon in field test. With KI impregnated PAC injection, the elemental mercury was decreased as injection rate was increased as similar with the case of virgin PAC injection. However, the portion of oxidized mercury was gradually increased as KI impregnated PAC injection rate was increased. When injection rate increased from 10 to 20 mg/m³, the removal efficiency of elemental mercury increased from 23.08% to 86.67%. In addition, the removal efficiency of oxidized mercury with KI impregnated PAC injection increased from 87.93% to 99.23%, whereas the removal efficiency with virgin PAC injection decreased from 19.30% to 17.50%.

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