

CFD Study to Predict Erosion Patterns inside CFBC Boiler

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The critical issue in operating Circulating Fluidized Bed Combustion (CFBC) Boiler is accelerated erosion on the surfaces of immersed steam tubes and grid nozzles during the operation. In this study, Computational Fluid Dynamics (CFD) simulation was performed to investigate gas-solid flow patterns and erosion patterns inside CFBC boiler using Fluent Code. Eulerian-Lagrangian model is used to predict erosion patterns inside CFBC. The simulations were performed using different inlet configuration, different operating temperature and different particle size, respectively. Comparing with the operating data, simulation results accurately predict erosion patterns inside CFBC.