COMPUTATION MODELING OF PULVERIZED COAL FIRED BOILERS (3 – 0 – 0) 3

Overall approach towards computational modeling – Engineering design models-Particle-level models-Boiler level models-Applying computational models to practice

Coal devolatization and combustion-Coal characterisation using thermo-gravimetric analysis and drop-tube furnace

Formulation of CFD model of a PC fired boiler-Species balance and energy balance- NO_x and SO_x formation-Particle deposition-CFD simulations of a PC fired boiler

Approach to develop reactor network models-Formulation of reactor network models from CFD simulations-Model equations and solution

Performance enhancement using computational models-Application of CFD models to PC fired boilers-Application of reactor network models to PC fired boilers-Common pitfalls

REFERENCES:

1. RANADE, V.V., and GUPTA D.F, Computational modeling of pulverized coal fired boilers, CRC Press,2015
2. KELLY, PETER O', Computer simulation of thermal plant operations, Springer, 2013

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