O 79. EVALUATION OF THE ASH BEHAVIOR SIMULATING COFIRING OF COAL AND BIOMASS

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ABSTRACT: Cofiring is the combustion of more than one fuel and it is specifically a process of combustion of biomass together with coal for the industrial applications such as power plants. Cofiring has many advantages: these are environmental, economical or technical. The environmental advantages of cofiring include the mitigation of types pollution such as air, soil and water. Cofiring reduce water pollution depending on the chemical composition of biomass. Cofiring process can cause some problems such as sintering, fouling, slagging or ash deposition because of the high content of alkali metals in biomass and some coal. Sintering cause the ash deposition because of that initial ash sintering temperatures should be understood in order to prevent the problem and that is detected by cold compression strength tests. All in all, mineral phases of biomass and coal ash after cofiring influence the power plants and types of biomass ash that are prefered significantly depends on its heating value. Biomass that has high heating value, provides more energy recovery and better system performance that gives more efficiency and economical saving to power plants.

Keywords: Cofiring, Biomass, Coal, Slagging, Fouling