Development of Process Model in Transport Coal Gasifier

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This paper develops process models for transport coal gasifiers. Two process models of the transport gasifier are developed which focus on different coal drying concepts. The first model uses additional gas for drying. The second model imports an integrated drying of feedstock feed to integrated gasification combined cycle (IGCC) plant. In this process, high pressure syngas from the gasifier is heated and is then used to dry feedstock. North Dakota Lignite (NDL) is used as feedstock coal and Peng−Robinson Equation is used for both models as physical property model. This paper gives overview of two processes of coal drying that comparing energy of two cases. Modeling and simulation of processes are carried out using Aspen Plus.