Dynamic Modeling of a Methanization Plant

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The chemical and physical modeling and transient simulation of a methanization plant with chemical reactors is useful for dimensioning, optimization, operation and analyzing of time critical processes. The paper introduces the results of the development of a dynamic model for a commercial methanization process. The discussed models base on the free Modelica language and Dymola as user interface. The methanization plant consists of 3 adiabatic fixed bed reactors and steam generation units for heat recovery. Calculation results are shown for the dynamic behavior of the methanization plant at a load change.