## Mathematical Modeling of Utility System Logistics in Process Industries

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Operation of Chemical Processes should be based on the well orchestration of many parts in addition to the major product production. Utilities such as electricity, steam, water are one of them. While recently much attention has been given to electricity, water, there is other essential area of potential importance. Recently in Process Systems Engineering communities, the problem of utility system began to draw increasing attention. This paper proposes a mathematical modeling formulation of utility systems. As a result of the modeling, the utility system can be designed systematically. The modeling allows the estimation of impact of the change of master product operation.