A discrete-event simulation approach for scheduling batch processes

P. Baudet, C. Azzaro-Pantel, S. Domenech and L. Pibouleau

Laboratoire de Génie Chimique - URA 192 du CNRS

ENSIGC INPT

18, Chemin de la Loge - 31078 Toulouse Cedex - FRANCE

FAX: 62 25 23 18

ABSTRACT

In this work, discrete-event simulation has served as a general framework for representing the behavior of a multipurpose-multiproduct batch plant. This approach has first been applied to the case of a semiconductor manufacturing facility and is now extended to a chemical batch plant. The basic principles of an enhanced version of a model developed previously in our laboratory is presented in this paper. It takes into account stable intermediates which may be generated at a multiple output step and whose production must, in turn, be scheduled. An illustrative example is given to show the impact of intermediate products on the general performance of the production system.