Operator Training Simulator of Olefins Plant for Process Safety Management

MA Qingchun, ZHANG Laibin, FAN Jianchun

Research Center of Oil & Gas Safety Engineering Technology,
China University of Petroleum-Beijing, Beijing 102249, China
Email: maqingchun@cup.edu.cn

Abstract

Training simulator can assist the operator for better understanding of the process, operational principles and control logic through the repeated training at various steps of the operation. The purpose of this paper is to describe the design and implementation of an Operator Training Simulator (OTS) of olefins plant. The training system includes a high fidelity plant-modeling package known as the Visual Modeler (VM). For the ethylene process is very complex, not all model is built in VM. This paper also provided the way to build the dynamic mechanism model for gasoline hydrogenation. The model validation tests show that the steady-state error is lower than 5%.

Keywords: Training simulator, Olefins plant, Dynamic mechanism model, Model validation test