

240k Web-Based Integrated Modeling for the Safety, Health, and Environment Management in Chemical Process

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With the maturation of chemical industry, the design and equipments of chemical processes also have aged and been changed many times. It is being observed in several countries that the number and magnitudes of accidents at chemical complexes are increasing nowadays. In addition to the cost-saving pressure, most of companies tried to solve these ever-increasing safety, health and environmental (SHE) problems by integrating the separately developed management systems into an effective and well-organized integrated system.

In this paper, we propose a systematic method of analyzing the chemical complex and processes, in the perspective of SHE management, by the object oriented information flow and developing a Web-based integrated safety, health, and environment management system. Based on this system we also developed the integrated audit system for the chemical complex and adjusted it for 18 companies at the 'Y' chemical complex in South Korea. This integrated management is very useful for improving the total safety, and for top managers to invest their resources, do risk assessment, and make emergency response plans.