

Process Safety Management Digitalization via SHEQTool based on Occupational Safety and Health Administration and Center for Chemical Process Safety, a Case Study in Petrochemical Companies

Authors : Saeed Nazari, Masoom Nazari, Ali Hejazi, Siamak Sanoobari Ghazi Jahani, Mohammad Dehghani, Javad Vakili

Abstract : More than ever, digitization is an imperative for businesses to keep their competitive advantages, foster innovation and reduce paperwork. To design and successfully implement digital transformation initiatives within process safety management system, employees need to be equipped with the right tool, frameworks, and best practices. We developed a unique full stack application so-called SHEQTool which is entirely dynamic based on our extensive expertise, experience, and client feedback to help business processes particularly operations safety management. We use our best knowledge and scientific methodologies published by CCPS and OSHA Guidelines to streamline operations and integrated them into task management within Petrochemical Companies. We digitalize their main process safety management system elements and their sub elements such as hazard identification and risk management, training and communication, inspection and audit, critical changes management, contractor management, permit to work, pre-start-up safety review, incident reporting and investigation, emergency response plan, personal protective equipment, occupational health, and action management in a fully customizable manner with no programming needs for users. We review the feedback from main actors within petrochemical plant which highlights improving their business performance and productivity as well as keep tracking their functions' key performance indicators (KPIs) because it; 1) saves time, resources, and costs of all paperwork on our businesses (by Digitalization); 2) reduces errors and improve performance within management system by covering most of daily software needs of the organization and reduce complexity and associated costs of numerous tools and their required training (One Tool Approach); 3) focuses on management systems and integrate functions and put them into traceable task management (RASCI and Flowcharting); 4) helps the entire enterprise be resilient to any change of your processes, technologies, assets with minimum costs (through Organizational Resilience); 5) reduces significantly incidents and errors via world class safety management programs and elements (by Simplification); 6) gives the companies a systematic, traceable, risk based, process based, and science based integrated management system (via proper Methodologies); 7) helps business processes complies with ISO 9001, ISO 14001, ISO 45001, ISO 31000, best practices as well as legal regulations by PDCA approach (Compliance).

Keywords : process, safety, digitalization, management, risk, incident, SHEQTool, OSHA, CCPS

Conference Title : ICCCP 2024 : International Conference on Chemistry and Chemical Process

Conference Location : Paris, France

Conference Dates : July 18-19, 2024