

Workplace Risk Assessment in a Paint Factory

Authors : Rula D. Alshareef, Safa S. Alqathmi, Ghadah K. Alkhouldi, Reem O. Bagabas, Farheen B. Hasan

Abstract : Safety engineering is among the most crucial considerations in any work environment. Providing mentally, physically, and environmentally safe work conditions must be the top priority of any successful organization. Company X is a local paint production company in Saudi Arabia; in a month, the factory experienced two significant accidents, which indicates that workers' safety is overlooked. The aim of the research is to examine the risks, assess the root causes and recommend control measures that will eventually contribute to providing a safe workplace. The methodology used is sectioned into three phases, risk identification, assessment, and finally, mitigation. In the identification phase, the team used Rapid Entire Body Assessment (REBA) and National Institute for Occupational Safety and Health Lifting Index (NIOSH LI) tools to holistically establish knowledge about the current risk posed to the factory. The physical hazards in the factory were assessed in two different operations, which are mixing and filling/packaging. For the risk assessment phase, the hazards were deeply analyzed through their severity and impact. Additionally, through risk mitigation, the Rapid Entire Body Assessment (REBA) score decreased from 11 to 7, and the National Institute for Occupational Safety and Health Lifting Index (NIOSH LI) has been reduced from 5.27 to 1.85.

Keywords : ergonomics, safety, workplace risks, hazards, awkward posture, fatigue, work environment

Conference Title : ICIMSE 2023 : International Conference on Industrial and Manufacturing Systems Engineering

Conference Location : Paris, France

Conference Dates : December 25-26, 2023