

Risk assessment of safety and health (RASH) for building construction

ABSTRACT

In this research Risk Assessment of Safety and Health RASH method for building construction has been developed with risks classified into Safety Risks and Health Risks. 11 factors representing safety risks and 8 factors representing health risks were identified based on field survey in Oman. 40 Safety and Health specialists were involved in carrying out risk assessment using the existing method of risk analysis RA and the proposed RASH method. It was found that RASH method resulted in superior accuracy for assessment of risk zones than the existing RA method. The accuracy by RASH was almost twice the accuracy by RA. The overall percentages of the correct answers for the four scenarios using the RASH method and the RA method were 72.5 percent and 40 percent respectively. The proposed RASH method gave fewer errors than the existing RA method for all scenarios. Two scenarios were found to be the most problematic ones with largest overestimation of risks occur when using the existing RA method. Wilcoxon Ranked Test showed that the two methods are significantly different ($z = -3.357$, $p > 0.01$). The new method RASH is statistically acceptable and it resulted in better response in terms of estimating the risk than the RA method.

Keyword: Occupational; Safety; Health; Risk Assessment; Oman; Construction