

Egress time analysis for Ledang Floating, Production, Storage and Offloading unit using EvacuatioNZ

ABSTRACT

The paper proposes a Monte Carlo probabilistic model in estimating egress time from Musolla to the muster area of Ledang Floating, Production, Storage and Offloading (FPSO) unit using EvacuatioNZ software. The complexity of the egress process is associated with the behaviour of occupants throughout the egress process. Hence the objective of the paper is to quantitatively establish the endurance time of egress process by validating several components of human behaviour in the EvacuatioNZ simulation. Human behavior factors such as human re-entry after escaping and crowd behavior are taken into consideration prior simulation runs of the egress process. From the simulation, the range of evacuation times from the origin point of escape to the muster area is estimated to be between 7.17 min to 18.78 min with a mean of 11.28 min.

Keyword: Fire evacuation; Egress time; EvacuatioNZ; Probabilistic simulation