Human Factors Issues in the Management of Emergency Response at High Hazard Installations

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ABSTRACT

This paper seeks to explore the Human Factors issues involved in emergency responses at high hazard installations, in particular offshore installations. Human Factors is an important consideration in the event of an emergency for several reasons:

a. An emergency event is a highly safety critical situation and human errors may lead to severe consequences;

b. Apart from fault detection and alarming, emergency response operations (e.g. decision making, response activities and safeguards to errors) consist primarily of human operations. Hence, there is an emphasis on operations being carried out correctly and at the appropriate time

c. Although the tasks involved are relatively simple, they are often carried out under extreme circumstances (e.g. high stress) and in a harsh or even hazardous physical environment.

This paper will discuss the role of Human Factors in emergency response and look at the way in which study of human factors can help determine the:

a. Physical design of means of escape

b. Design of response procedures and supporting equipment

Human Factors provides a suite of tools and techniques aimed to identify the causes and consequences of human errors. These can be utilized to predict potential human behaviour within emergency response scenarios, such as emergency escape and evacuation on offshore installations. Conclusions gained from these assessments can be used to inform designs of installations and procedures in order to facilitate safe and timely escape from hazardous situations.

This paper will explore how these techniques, which may include task analysis and human error analysis, could be adopted to assess and optimize emergency response.