

Approaches to elaborate on the safety of offshore helicopter operations

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Abstract

Accidents during helicopter transportation represent a high risk for workers on offshore installations. This paper discusses the application, achievements and limitations of two approaches, risk influence modelling and storytelling, which are used in a joint industry project known as the Helicopter Safety Study 3 (HSS-3). This study represents a collaboration between scientists in the fields of sociology, human factors engineering and scientists in the industry. The two methods represent different scientific paradigms, that each has its own perspective for understanding safety and risk. The HSS-3 risk model is based on the use of risk influencing factors (RIFs) and accident categories. The HSS-3 risk model represents a quite simple influence modelling, and is not designed to account for interdependency between RIFs, and does not describe the influence from the operational context on risk. As a consequence, the storytelling is combined with the risk modelling approach to identify effects of organizational changes on work practices and safety. The application of these two methods leads to the following question: To what extent do the methods complement each other, and how can they be combined to provide a better understanding of helicopter operations. Shifting the level of abstraction from linearity and decomposition (i.e. RIFs) to storytelling and richer data sets triggers new ways of understanding, in addition to providing new knowledge about the “internal life” of the system. The combined use of these approaches provided a better way to identify changes in risk, safety threats and also safety improvement measures. While the identified safety measures and findings are domain specific, the combined use of these two approaches may be of interest also to other industries.

Keywords: Safety, Risk influence modelling, Storytelling, Organisational change, Aviation

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