Development of an Effective Framework for Shift Handover

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Abstract

Shift handover is the procedure by which an outgoing shift of workers communicates important process information or changes to the incoming shift. By doing so, the new shift will be aware of potential hazards or issues that need to be addressed. Therefore, shift handover is very critical to the safety and efficiency of a process. Poor shift handover stems from problems with information. Whether information is inaccurate, ambiguous, inaccessible, or communicated poorly, low quality information can give workers a false picture of operations. Many catastrophic incidents in the chemical and petroleum industry have been caused by poor shift handover, e.g., the Piper Alpha Disaster and the BP Texas City Explosion.

Several factors can make inefficient shift handover more likely. First of all, information used in shift handover can be of poor quality due to the inherent ambiguity of information. In addition, overly complex or unusual information can lead to confusion. Furthermore, the quality of information transferred at shift handover is also affected by workers’ personalities and behaviors. Lastly, improper mediums of communication might give operators a false picture of operations.

MKOPSC at Texas A&M University has reviewed the available literature on the subject of shift handover in order to understand the above problems that commonly occur in the shift handover process and to develop solutions to mitigate these issues. To aid in this process, we initiated a survey in collaboration with an Engineering, Design, and Information Management Software Solution company. It focused on three sections as follows: method of shift handover communication, quality of communication, and process information availability.

From the survey, it was found that most operators utilize face-to-face communication and handwritten log books. Multiple channels of communication are used when they are available. The majority of people think the quality of the information is very important. During face-to-face communication, most participants encounter questions from the receiver, which could effectively improve the quality of communication through the process of feedback. Most basic and necessary information was available through paper records. MKOPSC also suggested some improvement that could enhance the quality of shift handover based on the results of the survey.