Comparing the operators' behavior in conducting emergency operating procedures with the complexity of procedural steps

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Abstract

Many kinds of procedures have been used to reduce the operators' workload throughout various industries. However, significant portion of accidents or incidents was caused by procedure related human errors that are originated from non-compliance of procedures.

According to related studies, several important factors for non-compliance behavior have been identified, and one if them is the complexity of procedures. This means that comparing the change of the operators' behavior with the complexity of procedures may be meaningful for investigating plausible reasons for the operators' non-compliance behavior.

In this study, emergency training records were collected using a full scope simulator in order to obtain data related to the operators' non-compliance behavior. And then, collected data are compared with the complexity of procedural steps. As the result, two remarkable relationships are found, which indicate that the operators' behavior could be reasonably characterized by the complexity of procedural steps. Thus, these relationships can be used as meaningful clues not only to scrutinize the reason of non-compliance behavior but also to suggest appropriate remedies for the reduction of non-compliance behavior that can result in procedure related human errors.