Safety Corner

What is the Management Oversight and Risk Tree?

The methodology of Management Oversight and Risk Tree (MORT) was developed in the early 1970s as part of the overall system safety effort for the US Department of Energy (at the time the Atomic Energy Commission) to systematically and logically analyse a system, or an accident, to examine and assess detailed information about the process inner-workings and the involvement of management.

MORT applies a pre-designed logic tree to the identification of total system risks, both those inherent in physical equipment and processes and those which arise from operation/ maintenance inadequacies. The symbols used on a MORT are basically those used in fault tree analysis. They include the rectangle as the general event symbol, the circle as the base event symbol, the diamond as an undeveloped terminal event, the “and” gate, the “or” gate, and the ellipse as a constraint symbols. The pre-deigned tree is intended to be a comparison tool that generally describes all phrases of a safety program and is applicable to systems and processes of all kinds. The technique is of particular value in accident/ incident investigation as a means of discovering system or program weaknesses or error which provide an environment conductive to mishaps.

A variant of MORT is called the Safety Management Organization Review Technique (SMORT). This technique is structured by means of analysis levels with associated checklists. While MORT is based on a comprehensive tree structure, owing to its structured analytical process, SMORT is recognized as a tree based methodologies. SMORT analysis includes data collection based on the checklists and their associated questions, in addition to evaluation of results. The information can be collected from interviews, studies of documents and investigations. This technique can be used to perform detailed investigation of accidents and near misses. It also served well as a method for safety audits and planning of safety measures.

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