

Application of Failure Mode and Effect Analysis and Fault Tree Analysis in Determining Prevention Efforts Failure of The Fire Extinguishing Process

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Abstract	<p>Banyumas is one of the regencies that still experiences frequent fires. The fire caused physical or material losses. To minimize fire losses, many efforts can be made to prevent the occurrence of these potential causes, which are the cause of the failure of the firefighting process. This study aims to implement the Failure Mode and Effect Analysis (FMEA) and Fault Tree Analysis (FTA) methods in determining efforts to prevent fire suppression failures. The result of the FMEA is Risk Priority Number (RPN) values to assess critical potential causes that need to be analyzed using FTA. In this research, there are ten important causes of potential, namely burned assets, difficult assets to save, victims panicking, witnesses/owners were not present, officers slipping, water sources being far from the location, victims being rescued too late, victims being trapped, officers being hit by debris, and officers inhaled excess smoke (congested). The result FTA obtained eleven minimum cut sets, which can fail the firefighting process in the Banyumas Regency, namely lack of awareness from related agencies, the protection system is not up to the firefighting standard and lack of maintenance of the fire protection system, lack of knowledge about how to evacuate yourself, the water source is far from the location, the owner does not live in the place (location), the victim has responsibility for the assets saved, high-priority asset value, a witness has not reported because the incident is considered to be handled by the residents, fire smoke is thick and firefighters not using self-contained breathing apparatus (SCBA).</p>
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Author	SITI RAHMAH NURSHIAMI, S.Si, M.Si