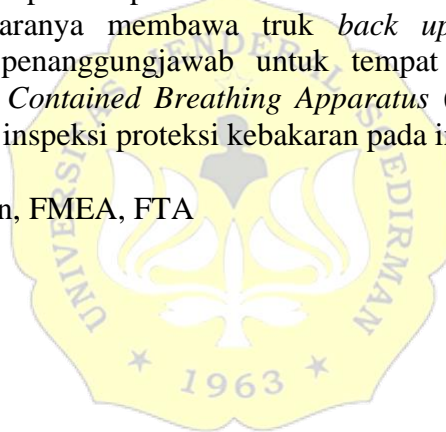


ABSTRAK

Banyumas merupakan salah satu Kabupaten yang masih sering mengalami kebakaran. Kebakaran tersebut mengakibatkan kerugian berupa fisik maupun materi. Untuk meminimalisir kerugian kebakaran, dapat dilakukan berbagai upaya pencegahan terjadinya *potential cause* yang merupakan penyebab gagalnya proses pemadaman kebakaran. Penelitian ini bertujuan untuk mengimplementasikan metode *Failure Mode and Effect Analysis* (FMEA) dan *Fault Tree Analysis* (FTA) dalam menentukan upaya pencegahan kegagalan proses pemadaman kebakaran. Hasil dari FMEA berupa nilai *Risk Priority Number* (RPN) untuk menentukan *potential cause* kritis yang perlu dianalisis lebih lanjut menggunakan FTA. Terdapat 10 *potential cause* kritis yaitu aset terbakar, aset sulit diselamatkan, korban panik, saksi/pemilik tidak berada di tempat, petugas tergelincir, sumber air jauh dari lokasi, korban terlambat diselamatkan, korban terperangkap, petugas tertimpa puing, dan petugas menghirup asap berlebih (sesak). Hasil dari FTA berupa *minimal path set* yang dapat digunakan sebagai acuan dalam upaya pencegahan kegagalan proses pemadaman kebakaran Kabupaten Banyumas. Upaya tersebut diantaranya membawa truk *back up*, memperluas lingkup sosialisasi, memiliki penanggungjawab untuk tempat yang tidak ditinggali, petugas memakai *Self Contained Breathing Apparatus* (SCBA), petugas segera mencapai titik api, dan inspeksi proteksi kebakaran pada instansi-instansi.

Kata kunci: Kebakaran, FMEA, FTA



ABSTRACT

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 determine critical potential causes that need to be their analyzed using FTA. There are 10 critical potential causes, namely burned assets, difficult assets to save, victims panicked, witnesses/owners were not present, officers slipped, water sources were far from the location, victims were rescued too late, victims were trapped, officers were hit by debris, and officers inhaled excess smoke (congested). The result of the FTA is in the form of a minimum path set that can be used as a reference in determining efforts to prevent failure the firefighting process in the Banyumas Regency. These efforts include bringing back up trucks, expanding the scope of socialization, having a person in charge of places that are not inhabited, officers using Self Contained Breathing Apparatus (SCBA), officers immediately reaching hotspots, and inspecting fire protection at agencies.

Keywords: *Fire, FMEA, FTA*

