Tanawat Rakkamon 2011: Fire Model and Preventive Behavior of Workers in Sawed Rubber-Wood Industry. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Faculty of Engineering . Thesis Advisor: Associate Professor Kiatkrai Ayuwat, M.Eng. 138 pages.

The purposes of study were category in to two approaches, the investigate of fire protection behavior and the fire preventive system design in case of fire in sawed rubber-wood industry. The first objective was covered 196 operational sampling workers. The content validity index (CVI) of questionnaire was 0.84 and the cronbach's alpha was 0.82. The second objective, simulation of the spread of smoke and fire, was provided to install an automatic sprinkler system. The fire model event was applied by Fire Dynamics Simulation (FDS) and fire simulation on the 1st boiler pilot plant in production department.

The result showed that the level of fire protection behavior was overall high ($\bar{x}$ = 2.83, SD = 0.37). However, in case of fire in boiler pilot plant, the smoke rapidly distributed of all building within 240 seconds. Due of the wooden arrangement area, saw and chemical covered wood were fired continuously. The highest temperature of 425 degree Celsius. Even through, operational workers had a high level of fire protection behavior. The spread of smoke was major obstacle of evacuation. After installation of the automatic sprinkler system, the spread areas of fire and smoke were limited. As well as, the temperature was decreased to 49.5 degree Celsius and the fire was limited down within 240 seconds.

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