ABSTRACT

PT. Cipta Busana Jaya is the garment industry. Everyday this industry produce ±16000 pieces of cloth. It mean this industry have a lot of fabric material, so this industry can be categorized as moderate fire danger potential building based on NFPA 10 1998 edition. Fire protection system in PT. Cipta Busana Jaya is only has APAR and Fire emergency respon plan.

The research started with collecting the number of APAR and escape means data in PT. Cipta Busana Jaya. Evaluation APAR started with evaluate a placement and the number of APAR and compare with PERMENAKERTRANS RI NO.04/MEN/1980 and NFPA 10 year 1998. Evaluation Fire Emergency Respon Plan started with evaluate fire exit width, number of fire exit, escape route, and location assembly area point based on Perda DKI Jakarta No.3 year 1992 and Life Safety Code, NFPA No.101. If the result of evaluation APAR and emergency respon plan is not fulfill condition so we must redesign action. In designing hydrant system started with calculate the number of pillar hydrant, range of pillar hydrant, wide of reservoir for hydrant system and calculate pump capacity.

The result from research that the number of APAR based on PERMENAKERTRANS RI NO.04/MEN/1980 is 54, and the number of APAR based on NFPA 10 year 1998 is 38. The result from calculation fire emergency respon plan that the number of fire exit in PT. Cipta Busana Jaya is 20 fire exit and 4 assembly area point. For calculation hydrant system, the result that 4 pillar hydrant with the horizontal range approximately is about 97m and vertical range approximately is about 24.46m, hydrant volume is 56.79 m³ and reservoir volume is 75.176 m³, and water capacity for pump is 53.77 hp.

Keyword: APAR, means of escape, fire exit, exit route, assembly area, hydrant system