

Anon Chinabutr 2006: The Study and Development of Equipment to Decrease the Smoke and Powder Emissions during the Fire Fighting in the Fire Ground Training. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Saree Svetasreni, D.Eng. 73 pages. ISBN 974-16-1923-5

This research is aimed to study environmental impact by conducting air quality monitoring in areas near the training location. The study itself refers to the Notification of Office of the National Environmental Board No.10 (B.E. 2538) and uses the theory of adding more air for combustion at the burning area. This specific training course uses dry powder extinguishers for training personnel to fight different types of fires. A building was designed and fabricated to protect the environment and the community, and to accumulate all the powder emissions to prevent any dust emissions spreading to the community. The experiment involving combustion by adding more air during burning found that the smoke was reduced to a satisfactory level. Also, the building in the dry powder extinguisher training area which was equipped with hoods, blower and dust filters was able to totally control the amount of smoke and powder emissions produced during the training. In addition, the air quality monitoring found that the air quality met environmental standards and there was no negative impact on the community. The results of this research indicate that smoke and powder emissions are not a key issue in creating pollution. However, the smoke and powder emissions from the training can cause the community to experience psychological effects and anxiety unless appropriate control measures are established. Following implementation of the control devices and tools, questionnaires were sent to the community to survey their feelings regarding the fire training, whether it was acceptable and satisfactory. The results determined a positive feeling and acceptable level of satisfaction among the community and a feeling of confidence when adequate pollutant control and management devices and measures are available.



Student's signature



Thesis Advisor's signature

22 May 49