Jaruwat Puangsuk 2008: Re-suspension of PM_{10} after High Pressure Water Spraying under the Station of Bangkok Mass Transit System. Master of Science (Environmental Science), Major Field: Environmental Science, College of Environment. Thesis Advisor: Associate Professor Samakkee Boonyawat, Ph.D. 109 pages.

The objectives of this research were to found relation of meteorological conditions on re-suspension of PM_{10} and study the patterns and periods of high pressure water spraying for particles reduction under Saphan Khwai BTS Station. Samples were collected from 6 sampling sites during 5.00am-8.00pm (every 3 hours), 8.00pm-12.00pm and 12.00pm-5.00am by using PM_{10} High Volume Air Samplers. There were two parts of this study. The first study was re-suspension of PM_{10} at spray zone after high pressure water spraying (5.00am-8.00pm). The second study was re-suspension of PM_{10} under Saphan Khwai BTS Station on non-spraying period (8.00pm-12.00pm).

The resulted found re-suspension of PM_{10} at spray zone after stop high pressure water spraying (5.00am-8.00pm) and had combined relationship with meteorological conditions such as wind direction, wind speed, temperature, relative humidity and actual vapor pressure. Re-suspension of PM_{10} from 9 samples under Saphan Khwai BTS Station on non-spraying period (8.00pm-12.00pm) could not concluded that there were re-suspension of PM_{10}. Re-suspension of PM_{10} at spray zone after spraying water every 5 minutes and 10 minutes during 5.00am–8.00pm 15 samples of each pattern were analyzed. The resulted found re-suspension of PM_{10} at 33% and 40%, respectively which non-significant different and found re-suspension of PM_{10} all periods, especially the periods that wind speed lower than 1.0 m/s. Therefore, reduction of PM_{10} under Saphan Khwai BTS Station should spraying water all time during rush hours and other period can spraying water both every 5 minutes and every 10 minutes for save cost because there were non-significant different of PM_{10} re-suspension.

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