UNIVERSITI TEKNOLOGI MARA

EXPOSURE LEVEL TO PARTICULATE MATTER ≤ 2.5 (PM2.5) FOR THE PASSENGER AT KTM COMMUTER PLATFORM IN KL SENTRAL STATION

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Project submitted in fulfilment of the requirements for the degree of

Bachelor (Hons.) of Environmental Health And Safety

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Declaration by Student

Project entitled Exposure Level to Particulate matter ≤ 2.5 (PM2.5) for the passenger at KTM Platform in KL Sentral Station is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate is clearly, with due reference to the literature, and acknowledgment of collaborative research and discussions. The project was done under guidance of Mr. Megat Azman Megat Mokhtar as Project Supervisor. It has been submitted for the Degree of Bachelor in Environmental Health and Safety (Hons).

Student Signature

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Abstract

Exposure Level to Particulate matter ≤ 2.5 (PM2.5) For The passenger at KTM Waiting Area in KL Sentral Station

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Transportation systems are one of the main factors for urban development. Public transportation is one of the air pollution contributors. Increase of public transport cause increasing of air pollutant such particulate matter ≤ 2.5um. People may expose to air pollution when breathing the air. KTM Komuter is one of the famous transportation among people in Kuala Lumpur and Selangor. Thus, KTM Komuter's passenger may expose to PM2.5 not only during commuting but also during waiting. Thus a study on the concentration level of PM2.5 in the platform area was conducted. The aim of the study is to identify concentration level of PM2.5 at KTM Komuter waiting area. The study was conducted at KTM Komuter platform area in KL Sentral for 10 hours monitoring. The concentration of PM2.5 was measured using DustTrak in January 2015. The measurement was taken for 10 hour for each sampling day. The statistical analysis is done using Statistical Package for Social Science version 18.0. From the study, the result found the average concentration of PM2.5 is 51.18ug/m3 (weekday). There is significance difference between concentration of PM2.5 during peak hour and non-peak hour (p-value=0.001) and also between morning peak hour and evening peak hour (p-value=0.001). The study was found that there is moderate strong positive correlation (r=0.766) between PM2.5 concentration and relative humidity (weekdays).Meanwhile the exposure concentration of PM2.5 also show the highest exposure is during morning peak hour (15.33ug/m3) for weekdays. However KTM Komuter's passenger only expose to 5.33ug/m3 if they wait for 15 minutes during evening peak hour. The lowest exposure concentration is during non-peak hour which is 3.55ug/m3 even though the passenger wait longer than in peak hour (30 minutes). As a conclusion the concentration of PM2.5 was related to the frequency of train and also the relative humidity at KTM Komuter waiting area.

Keywords: public transport, KTM Komuter, PM2.5, relative humidity