Provision of MTR Train Wheel Set Noise Measurements for Operating Trains

ANEWR
Environmental & I.T. Consultants

CLIENT : MTR CORPORATION LIMITED (CONTRACT NO. Q028689)

LOCATION : HONG KONG

DATE: JULY 2013 - JUNE 2017

TAGS: RAILWAY NOISE, SOUND LEVEL METER

USE OF TECHNOLOGY: RAILWAY NOISE MEASUREMENT, WHEEL SET NOISE MEASUREMENT

Background

Damage to the surface of railway wheels and rails commonly occurs in most railways and, if not detected at an early stage, can result in rapid deterioration and possible failure incurring high maintenance costs. Besides, wheel defects, or wheel flats, on railway wheels would generate abnormal rolling noise causing potential noise nuisance to the noise sensitive receives near rail tracks in such a densely developed metropolitan city.

Our Roles

ANewR has been appointed by MTR Corporation to conduct regular wheel set noise measurements at five railway lines, i.e. East Rail Line (EAL), Tsuen Wan Line (TWL), Island Line (ISL), Kwun Tong Line (KTL) and Airport Express (AEL), to identify any abnormal noise due to wheel flats using advanced sound level meters. The noise measurements were conducted following the requirements and procedures agreed with the Client. Noise data with a time interval down to 20ms and 1/3 octave band spectrum of each train pass-by event were recorded for subsequent analysis.

Key Values to Client

ANewR helped the Client identify any abnormal noise generated by wheel flats at an early stage to minimise the maintenance cost and potential noise nuisance to the noise sensitive receivers near railway tracks. With ANewR's help, the Client could reduce the risk of train delays and breakdowns caused by defected wheels, thus improving railway safety and service reliability.