

Exhaust Emission Data Study



New York City Metropolitan Transit Authority Diesel Car Equipment Rental Fuel Catalyst Testing

Data Accumulated By
New York City Metropolitan Transit Authority
Bronx, New York

Purpose of Testing

To provide exhaust emission data on a Cummins 318 Yard Train Engine, a Transit Authority Diesel Car, a 1989 GMC Tow Truck and a 1991 Mack Hoist Truck. The data was obtained by measuring emissions while operating these trucks over standard operational travel sequence

Type of Testing

The 5 - gas test measurements were made using Energy Efficiency Systems portable emissions and combustion analyzers using their emission monitoring system, utilizing standard electrochemical sensors. MTA mechanics and Rentar Environmental Solutions technicians installed the Rentar Fuel Catalyst. Each test involved pre-emission monitoring, installation of the Rentar Fuel Catalyst and post emission monitoring.

Summary of Findings

MTA and Rentar Environmental Solutions conducted the exhaust emission studies. They solely managed and collected the data.

At MTA's maintenance shop, they created a protocol, installed the Rentar Fuel Catalyst and collected the "post" data. The results as documented in the attached report due to the Rentar Fuel Catalyst are shown in the report below.

Test Protocol

MTA Maintenance Shop Bronx, NY

Protocol on installation of Rentar Fuel Catalyst:

1. Allow train to warm up to appropriate oil temperatures above 140 degrees
2. Perform 5 - gas test using third party testing machine
3. Install Rentar Fuel Catalyst on trains using NYCMTA mechanics
4. Conduct post installation emission test on all vehicles using third part testing machine

The train yard engine, CO was reduced by 35.7%, NO reduced by 118.7%, NO2 reduced by 26.3%, and NOx reduced by 21.1%

An average of the other vehicles opacity reductions was 49.35%

