Vehicle Emission Data

Emission regulations for diesel vehicles are divided into emission standards for Light Duty Diesel Vehicle (LDDV) and emission standard for Heavy Duty Diesel Vehicle (HDDV).

New diesel vehicle regulations are based on European standards and emission test procedures, as summarized in the following Table 2.7 for light- and heavy-duty diesel vehicles.

Table 2.7 - Light and Heavy Duty Diesel Vehicle emission standards

Type	Level	Reference Standards	Standard No.	Enforced
Light Duty Diesel Engine	4	94/12/EC	TIS1435-1997	Jan 1, 1999
		- for Direct Injection		Sep 30, 2001
	5	96/69/EC	TIS1875-1999	
		- Ref. Weight not more than 1,250 kg.		Oct 1, 1999
		- Ref. Weight more than 1,250 kg.		Oct 1, 2000
		- Direct Injection Engine		Sep 30, 2001
Heavy Duty Diesel Engine	2	95/542(A)/EEC (EURO 1)	TIS.1290-1995	May 12, 1998
	3	95/542(A)/EEC (EURO 2)	TIS.1295-1998	May 23, 2003

Source: PCD, 2003

In recent months, PCD has conducted a number of diesel vehicle emission tests using the New York Bus Cycle for heavy-duty diesel vehicles and the Thailand Industrial Standard Institute (TISI) Cycle for light-duty diesel vehicles. A summary of the results from PCD's emission tests are given in Table 2.8. The detailed emission data and testing procedures are provided in Annex L. A new Bangkok-specific driving cycle for diesel vehicles has been recently developed by the Japan Transport Cooperation Association (JTCA) as part of a global emission testing program, and will be used in this program. The experience and data collected from the Japanese project will be used by this study. The first results from their project will be available in March 2004.

Table 2.8 - Summary of diesel vehicles emission tests performed by PCD laboratory

Type	Fuel Injection System	Total Vehicles tested	Test Mode	Driving Cycle	Emission (g/km)					Fuel Efficiency (km/l)
					THC	NO_x	CO	CO_2	PM	
LDDV	DI	228	Cold	NYBC	0.105	1.224	0.562	261.072	0.090	10.787
LDDV	IDI	375	Cold	NYBC	0.065	1.020	0.502	270.000	0.085	10.116
HDDV	DI	176	Hot	TISI	4.189	17.427	30.239	1671.548	4.633	1.628

More detailed information on PCD's Emission Laboratories are provided in the Annexes.