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**SPEECH BY MR SIDEK SANIFF SENIOR MINISTER OF STATE FOR THE
ENVIRONMENT
AT THE OPENING OF THE SEMINAR ON VEHICLE MAINTENANCE TO
PREVENT
BLACK SMOKE EMISSION HELD AT DELGRO ENGINEERING PTE LTD
BRADELL ROAD ON 17 AUG 2000 AT 9.30 AM**

Distinguished Guests,

Ladies and Gentlemen

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**1 I am happy to be here this morning to officiate the opening of the Seminar on
Vehicle Maintenance to Prevent Black Smoke Emission.**

**2 First of all, I would like to extend a very warm welcome to our Malaysian friends
from the Department of Environment, Johor, Puspakom, Johor and the Malaysian
Lorry Owners' Association and the Malaysian Bus Owners' Association to this
Workshop. It is indeed our pleasure and honour to have you here at this Seminar.**

3 In Singapore, as in any highly urbanised city, emission from motor vehicles is a significant source of air pollution. Vehicular emission contains pollutants such as carbon monoxide, oxides of nitrogen and sulphur, and particulates. These pollutants can cause health problems as well as degrade the environment and quality of life. In particular, diesel-driven vehicles emit particulates that are very fine and a large proportion of them are less than 2.5 microns in size. These fine particulates are generally known as PM2.5 and they can penetrate the deeper recesses of our lungs and cause respiratory problems. Studies in the US and other countries have linked PM2.5 to an increase in respiratory diseases and increased mortality. Epidemiological findings have shown that it is prudent to keep PM2.5 level to as low a level as possible in order to protect the health of the population.

4 Currently, we have a vehicular population of about 560,000 motor vehicles and 130,000 motorcycles. In addition to this, an average of 30,000 Malaysian registered motorcycles and 3,000 diesel-driven Malaysian registered goods vehicles ply Singapore roads each day. Singapore is a small country and we therefore need a stringent programme to control smoke emission from vehicles to ensure that our ambient air quality remains healthy.

5 In Singapore, we have implemented a multi-pronged programme to control the smoke emission from motor vehicles. Firstly, we set stringent emission standards for the registration of new vehicles. Over the years, we have tightened the emission standards in tandem with advances in vehicle technology. From 1 January 2001, the emission standards for diesel-driven vehicles will be further tightened and vehicles registered for use in Singapore will be required to comply with EURO II standards.

6 Secondly, we ensure that the fuel quality meets acceptable standards. Unleaded petrol was introduced in Singapore in 1991 and it paved the way for the introduction of stringent emission standards for petrol-driven vehicles fitted with catalytic converters. By Jul 1998, we have phased out leaded petrol completely. Today, the lead level in our ambient air is well below the United States Environmental Protection Agency's (USEPA) standard. We have also over the years gradually reduced the sulphur content

in diesel. Since 1 March 1999, the sulphur content of diesel has been reduced to 0.05% by weight. The low-sulphur diesel has helped reduce the levels of sulphur dioxide and particulate emissions from diesel-driven vehicles. It has also allowed us to introduce the more stringent EURO II emission standards for diesel-driven vehicles.

7 Thirdly, we require all in-use vehicles to undergo mandatory periodic inspection at an authorised vehicle inspection centre at regular intervals. Vehicles that fail the smoke emission tests during the inspection are not allowed to renew their vehicle road taxes. This is to ensure that vehicles on the roads are properly maintained to prevent smoke emission.

8 Fourthly, ENV officers carry out strict enforcement operation against both smoky Singapore and Malaysian vehicles.

9 Last but not least, we educate vehicle owners on the proper operation and maintenance of their vehicles. The most effective way to reduce smoke emission is to carry out proper and regular servicing and maintenance of vehicles. Towards this end, ENV holds regular meetings with vehicle fleet owners to educate them on the need to have proper programme to service and maintain their vehicles, and not to overload their vehicles or drag the engines. ENV also holds regular meetings with the Singapore Lorry Owners' Association, Singapore School & Private Hire Bus Owners' Association and the National Association of Travel Agents to ensure that the message of preventing smoke emission permeates down to their members.

10 As a result of this control programme, the proportion of smoky vehicles plying our roads has decreased over the years. Our survey results have shown that the proportion of smoky Singapore-registered vehicles has decreased from about 8% in 1990 to about

2% currently. Similarly, the proportion of smoky Malaysian registered vehicles plying our roads has decreased from about 20% in 1990 to about 5% to-date. Notwithstanding the reduction in the proportion of smoky vehicles, we must continue to strive for further reduction in the number of smoky vehicles plying our roads. This is to ensure that our ambient air quality remains safe for our people.

11 As part of the continuing effort to educate vehicle owners, my Ministry has also together with DelGro Engineering published a booklet on the proper maintenance of diesel engines. This booklet serves as a useful guide to vehicle owners on the proper maintenance of diesel-driven vehicles to prevent black smoke emission. On behalf of my Ministry, I would like to express our appreciation to DelGro Engineering for sponsoring the printing of the booklet. I would also like to commend all those who were involved in the preparation of the booklet.

12 Currently, many motor workshops in Singapore do not have the necessary equipment or trained mechanics to carry out proper servicing and maintenance of diesel-driven vehicles to prevent black smoke emission. As a result, some vehicles continue to emit black smoke even after they have been serviced and maintained by such workshops.

13 There is hence a need for motor workshops to upgrade. My Ministry, has, therefore, set up a Working Group, which comprised Singapore Automobile Association, Singapore Motor Workshop Association, Singapore Motor Traders' Association, Singapore Lorry Owners' Association, Singapore School & Private Hire Bus Owners' Association, Vicom Vehicle Inspection Centre, Comfort and DelGro Engineering to develop a set of guidelines for the certification of motor workshops. The guidelines stipulate the equipment required, training of mechanics to carry out proper maintenance and servicing of diesel-driven vehicles to prevent emission of black smoke. Following the development of the guidelines, the Motor Industry Certification

Board (Singapore) has been formed to certify motor workshops that meet the guidelines. So far, 6 motor workshops have been certified and another 9 are being evaluated for certification under the scheme.

14 The certification scheme will encourage operators of motor workshops to develop and enhance their technical expertise in maintaining and servicing diesel-driven vehicles. Motor workshops can apply for funding under the Singapore Productivity and Standards Board's Local Enterprise Technical Assistance Scheme to engage technical consultants to help them to identify and bridge the gaps in technical skills, equipment and system so that their workshops can meet the criteria for certification.

15 We will implement the certification scheme on a voluntary basis and encourage vehicle owners to send their vehicles to certified motor workshops for servicing and maintenance in order to prevent black smoke emission. This will help the vehicle fleet owners to upgrade their preventive maintenance programmes for their vehicles to reduce the problem of smoky vehicles on the road.

16 Currently, diesel-driven vehicles are tested for smoke emission using the free acceleration smoke test which is carried out on a vehicle with its transmission in neutral and no load on the vehicle. While this is a simple and fast test, it does not test for smoke emission from a vehicle under load.

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17 My Ministry plans to replace the existing free-acceleration smoke test for diesel-driven vehicles with the chassis dynamometer smoke test (CDST) in phases. Unlike the free acceleration smoke test, the CDST simulates the actual driving conditions that a vehicle is subjected to while on the road. The test will be able to determine if proper maintenance and servicing of the vehicles has been carried out.

18 The CDST will be implemented in phases to replace the existing free-acceleration

smoke test for diesel-driven vehicles. We will start with a pilot programme on 1 Sep 2000. Under this pilot programme, we will require diesel-driven vehicles that have been booked or reported for smoky emission to undergo the CDST. We have timed the implementation of the certification of motor workshop scheme and the use of CDST to commence on 1 Sep 2000. This is to enable owners whose vehicles have failed the CDST to send their vehicles to a certified motor workshop for repairs and maintenance.

19 I am heartened to see so many of you here today, including our friends from Malaysia. Your presence demonstrates your commitment to the protection of our environment. I am confident that this Seminar and the booklet on vehicle maintenance to prevent black smoke emission will enhance your knowledge and understanding of proper vehicle maintenance. I am also confident that the scheme on the certification of motor vehicle workshops and the use of CDST will help and spur vehicle owners to upgrade their vehicle maintenance programmes to prevent black smoke emission.

20 On this note, I am pleased to declare the Seminar open and to launch the “Booklet on Vehicle Maintenance to Prevent Black Smoke Emission.”

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