LEGISLATIVE COUNCIL BRIEF

Air Pollution Control Ordinance (Cap. 311)

Air Pollution Control (Petrol Filling Stations) (Vapour Recovery) Regulation

INTRODUCTION

The Secretary for Planning, Environment and Lands has made the Air Pollution Control (Petrol Filling Stations) (Vapour Recovery) Regulation, at Annex, under Section 43 of the Air Pollution Control Ordinance (Chapter 311) to reduce benzene emission from petrol filling stations during the petrol unloading process.

BACKGROUND

2. Benzene is a known human carcinogen. It enters the human body primarily through inhalation and can cause toxicological effects such as injury to bone marrow. A number of overseas cases of leukemia have been reported to be associated with benzene exposure.

3. In Hong Kong, petrol is the principal source of benzene in the ambient air. The average benzene contents for leaded and unleaded petrol in Hong Kong are 3.2% and 3.4% respectively. These levels comply with the maximum allowable level of 5% in Hong Kong which is as stringent as the standard of the European Union.

4. The Toxic Air Pollutants Inventory Study commissioned by the Environmental Protection Department identified benzene emission from petrol filling stations to be a high priority issue requiring control as they are commonly found in close proximity to residential areas in Hong Kong. This recommendation, was endorsed by the Advisory Council on the Environment at the Meeting held in May 1996.

5. The proposed Regulation will bring Hong Kong in line with the practice of many other developed countries in controlling benzene emission during petrol unloading at a petrol filling station. It will also reduce benzene emission at the petrol filling stations from petrol spillage, emptying loss and breathing loss from the storage tanks.

THE PROPOSED REGULATION

6. The proposed Regulation requires action from the owners and operators of petrol filling stations and petrol delivery vehicles to reduce benzene emission during the unloading of petrol from the delivery vehicle to the petrol storage tank in the petrol filling station. Details of the requirements are given in paragraphs 7 to 9 below.

Installation of Vapour Recovery System

7. Section 3 of the proposed Regulation requires that every petrol delivery vehicle and storage tank at petrol filling stations served by these vehicles shall be equipped with a vapour recovery system capable of recovering at least 90% of the petrol vapour (and hence benzene) displaced from the tanks when petrol is unloaded. Many overseas countries have already required installation of similar vapour recovery systems and the technical specifications of the system are rather standardised. The vapour recovery system will also reduce benzene emission due to emptying loss and breathing loss from the storage tanks.

Maintenance of Vapour Recovery System

8. In order to ensure the proper maintenance of the vapour recovery system after installation, Section 4 of the proposed Regulation requires that every vapour recovery system installed shall be tested annually by a competent examiner who is a registered professional engineer of a relevant discipline. The examiner shall certify the system in accordance with a set of testing requirements specified in Schedules 1 to 3 of the proposed Regulation. The certificate, with an effective period of 12 months from the testing date, has to be submitted to the Environmental Protection Department for registration. The certificate shall also be displayed at a conspicuous location on the vehicle or in the station.

Operation

9. Section 7 of the proposed Regulation requires that the vapour recovery systems have to be properly operated during the petrol unloading process. When the vapour recovery systems of the vehicle and the storage tank are not completely interconnected or leakage of petrol is observed, the operator should immediately stop the unloading process until the problem is rectified. This requirement will also reduce benzene emissions due to petrol spillage.

Penalty

10. Fines and imprisonment terms are proposed to provide sufficient deterrent effect. The maximum fines shall be $200,000, with an imprisonment term of 6 months, for the owner of the petrol filling station or the petrol delivery vehicle who fails to install the vapour recovery system or to conduct annual test on the system. The same maximum penalty shall also apply to the owner of a petrol filling station who allows any unloading of petrol from a petrol delivery vehicle without the certificate. An owner of the petrol filling station or the petrol delivery vehicle who fails to display the certificate will be subject to a maximum fine at level 5 (currently $50,000). An operator who fails to operate the petrol unloading process properly shall be liable to a maximum fine at level 5 on the first conviction and a maximum fine at level 5, with an imprisonment term of 3 months, for the second or subsequent conviction.

IMPLEMENTATION TIMETABLE

11. We intend to implement the proposed Regulation on 1 April 1999. All existing petrol filling stations and petrol delivery vehicles will be given a grace period of 12 months to install and upgrade their facilities in compliance with the requirements. We estimate that there are about 300 petrol filling stations and 70 petrol delivery vehicles in Hong Kong which would need to be brought into compliance with the proposed Regulation.

FINANCIAL AND STAFFING IMPLICATIONS

12. The Environmental Protection Department will absorb the additional workload due to the implementation of the proposed Regulation with existing staff. Funding has already been secured for installing the vapour recovery systems by Government departments which operate approximately 100 government owned petrol filling stations.

ECONOMIC IMPLICATIONS

13. The proposed Regulation will incur initial costs to the owners of the petrol filling stations and petrol delivery vehicles for installing vapour recovery systems. According to the trade's own estimates, the installation of a vapour recovery system will cost about $500,000 and $100,000 each for a petrol filling station and a petrol delivery vehicle respectively. For the existing petrol filling stations and petrol delivery vehicles, the trade estimated that it will cost them around $96 million. Some of the owners have already installed vapour recovery systems to their stations and vehicles on their own initiative.

14. The trade also estimates that maintaining, examining and operating the vapour recovery system will not cause any significant increase in the running costs of a petrol filling station or a petrol delivery vehicle. In the long run, the initial and running costs of the vapour recovery system will be partially offset by the revenue generated from the petrol vapour recovered. On the other hand, control on benzene emission will generate external benefits to the community in terms of cleaner air and improved public health.

ENVIRONMENTAL IMPLICATIONS

15. Implementation of the proposed Regulation would in practice reduce the emission of benzene from petrol filling stations. This would help improving our air quality and reducing the exposure of public to air toxic pollutants.

PUBLIC CONSULTATION

16. Major oil companies, private petrol filling stations, green groups have been consulted and were generally in support of the need for the control. Some oil companies have already modified their existing stations and petrol delivery vehicles for early compliance with the proposed requirements.

17. The Advisory Council on the Environment discussed and endorsed the proposed Regulation in November 1998.

PUBLICITY

18. A press release on the proposed measures will be issued when the proposed Regulation is published in the Gazette on 11 December 1998.

ENQUIRY

19. For any enquiries on this brief, please contact Mr Howard Chan, Principal Assistant Secretary (Environment), Planning, Environment and Lands Bureau, at 2848 2551.

Planning, Environment and Lands Bureau
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