Research on Pollution Prevention and Control of Motor Vehicles

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Abstract - Motor vehicle exhaust emission has increasingly become the most important pollution source of urban air, and the prevention and control of motor vehicle emission has become a prominent environmental protection topic. Most developed countries and regions such as the United States, Japan and the European Union control motor vehicle emission pollution by formulating systematic laws and regulations. At present, there are many defects in China's legislation in this regard. It can not meet the needs of the current prevention and control work. In order to effectively change the current situation of pollution, we need to learn from foreign advanced legislative experience, improve the legislative level of motor vehicle pollution prevention and control, and formulate special separate laws and supporting legislation for motor vehicle pollution prevention and control, so as to improve and perfect motor vehicle pollution prevention and control.

Keywords: Motor Vehicle, Pollution Prevention and Control, Legislative System, Legislative Analysis

I. INTRODUCTION

In recent years, the number of motor vehicles in China has increased rapidly. Motor vehicles not only bring convenience to people, but also cause serious pollution to the atmospheric environment. Motor vehicle exhaust emission has become an important source of air pollution in large and medium-sized cities. The air pollution in large and medium-sized cities began to show the characteristics of soot and motor vehicle exhaust combined pollution. It has become an important measure to solve this problem by learning from the mature experience of developed countries and adopting legal means to formulate a practical legal system for the prevention and control of motor vehicle pollution.

II. THE HARM OF POLLUTION EMITTED BY MOTOR VEHICLES

Motor vehicle emission pollution refers to the pollution caused by the emission and evaporation of various pollutants into the atmosphere from the engine exhaust pipe, crankcase, fuel tank and fuel system. Motor vehicle emissions mainly include carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons, lead and some soot particles. In addition, freon used in automobile air conditioning is the main substance that destroys stratospheric ozone. These emissions seriously endanger human health. If the human body inhales low concentration lead atmosphere for a long time, it can cause chronic poisoning symptoms. Such as dizziness, headache, general weakness, insomnia, memory loss and other neurological syndromes, especially for teenagers and young children's central nervous system and hematopoietic system. Carbon monoxide, nitrogen oxides and hydrocarbons emitted by motor vehicles will form photochemical smoke, which will stimulate eyes and respiratory tract, causing people to suffer from red eye disease, asthma, etc. These pollutants will also cause damage to the environment. A large number of exhaust gases from motor vehicles gather in the urban center, forming a "heat island effect" and affecting the climate of the urban center; At the same time, it will also form secondary pollution, that is, photochemical pollution, destroy the urban ecological environment and hinder the urban economic development. It can be seen that motor vehicle emissions not only endanger human health, but also damage the ecological environment, which must be prevented and controlled. In addition to technical means, legal control is essential, and the primary measure of legal control is legislative prevention and control.

III. CURRENT SITUATION OF LEGISLATION ON POLLUTION PREVENTION AND CONTROL OF MOTOR VEHICLES IN CHINA

A. Legislation Progress

China has implemented legislation to prevent and control motor vehicle pollution since the 1980s. Article 26 of the Constitution stipulates that the state protects and improves the living environment and ecological environment, and prevents and controls pollution and other public hazards. This provision provides a constitutional basis for the prevention and control of motor vehicle pollution. In 1987, the Standing Committee of the National People's Congress promulgated the Air Pollution Prevention and Control Law which made principled provisions on motor vehicle pollution and supervision and administration organs. In 1990, the former State Environmental Protection Bureau and the Ministry of Public Security jointly issued the Supervision and Management of Automobile Exhaust Pollution, which stipulated the institutions and functions of automobile exhaust pollution supervision and management, and made provisions on newly produced vehicles and engines, in-service vehicles, automobile maintenance, imported vehicles, exhaust pollution detection, etc. In 1991, the former State Environmental Protection Bureau formulated the Detailed Rules for the Implementation of the Law on the Prevention and Control of Air Pollution, and promulgated the National Motor Vehicle Exhaust Emission Monitoring and Management System (Provisional) in the same year. In 1995, the Standing Committee of the National People's Congress revised the Air Pollution Prevention and Control Law and added provisions on the use of unleaded gasoline. In 1998, the Ministry of Machinery issued the Management Measures for Pollutant Emission Monitoring of Automobile, Motorcycle and Vehicle Engine Products, which stipulates that the competent departments of automobile industry, automobile enterprise groups, companies, automobile product testing institutions and automobile production enterprises jointly form a nationwide management network. In 1999, the former State Environmental Protection Bureau jointly issued the Technical Policy for the Prevention and Control of Motor Vehicle Emission Pollution,
which stipulated the car emission control level to be achieved in stages, and issued a guiding and reference technical guide for the prevention and control of motor vehicle emission pollution. In 2000, the Standing Committee of the National People's Congress revised the Air Pollution Prevention and Control Law again, listed the prevention and control of motor vehicle emission pollution as a separate chapter, and made provisions on the manufacture of motor vehicles, the emission standards of motor vehicles, the use and maintenance of motor vehicles, and the supervision and inspection of fuel quality. In the same year, the Ministry of Environmental Protection issued the Regulations on the Supervision and Administration of Pollution Prevention from Locomotive Emissions (Draft for comments), which made more detailed provisions on the emission management of motor vehicles. In 2005, the State Environmental Protection Administration issued the Technical Specifications for Testing Institutions of Pollutants Discharged from Motor Vehicles in Use, which stipulated that only testing institutions entrusted by the administrative department of environmental protection in accordance with the law can carry out regular testing of pollutants discharged from motor vehicles in use, and put forward requirements for testing institutions in terms of technical equipment and management personnel quality. In July 2009, the Ministry of Environmental Protection formulated the Regulations on the Management of Qualified Marks for Environmental Protection Inspection of Motor Vehicles and began to unify and standardize the management of motor vehicle marks. Furthermore, since 1983, China has successively promulgated and implemented 83 environmental protection standards for motor vehicles, such as Emission Standards for Idling Pollutants of Gasoline Vehicles, Emission Limits and Measurement Methods of Pollutants of Light Vehicles, etc.

B. Legislation Defects

Through combing the above laws and regulations, we find that China has done a lot of work in legislation on the prevention and control of motor vehicle pollution, and has initially formed a legislative system for the prevention and control of motor vehicle pollution. However, it is not difficult to see that the following defects are obvious:

Firstly, the legislative level is not high. Throughout all the legislation, only one law on the prevention and control of air pollution is legal, the rest are departmental rules, and the legislation at the level of administrative regulations is a blank. Secondly, there is a lack of special motor vehicle emission prevention and control law. Except for a separate chapter of the Air Pollution Prevention and Control Law, there is no special legislation to regulate this problem. Thirdly, the content of laws and regulations is principled and general, the meaning of policy declaration is strong, and the operability is poor. Fourthly, there are few punitive provisions, and the punishment is not strong enough. The punishment method and the punished subject are relatively single. Fifthly, multi head management, overlapping responsibilities, unclear legal responsibilities, environmental protection departments, public security departments, transportation departments, industrial and commercial departments, quality inspection departments, quality inspection departments, entry-exit commodity inspection departments, military vehicle management departments, etc. are legal motor vehicle emission supervision departments, all have management responsibilities, but the responsibilities are overlapping. Furthermore, there are unclear responsibilities and the absence of supervision. Sixthly, the legislation of some specific regulatory systems is absent. For example, the total emission control system of motor vehicle exhaust pollution, the public participation system of prevention and control, the motor vehicle pollution prevention fund system, the motor vehicle pollution liability insurance system and other basic systems have not been established.

IV. LEGISLATIVE ANALYSIS ON POLLUTION PREVENTION AND CONTROL OF MOTOR VEHICLES ABROAD

A. Legislative Experience of the United States


The US federal government has also promulgated relevant regulations. In 1960, the United States Environmental Protection Agency passed the Automobile Pollution Control Act. In 1963, the United States Congress passed the original Clean Air Act (CAA). This Law provides long-term support for the prevention and control of air pollution. In 1965, the Motor Vehicle Air Pollution Control Act was passed, the most important of which is to allow personnel of the federal health education and welfare agency to establish emission standards for various new motor vehicles. In 1965, Congress amended the CAA for the first time and ordered HDEW to formulate the first edition of federal motor vehicle emission standards.

In 1970, the United States Congress revised the CAA to strengthen the control of vehicle emissions. In 1990, the United States revised the CAA again to further emphasize the need to improve air quality. At the same time, the federal government and some states have also implemented some regulations on the use of clean fuel. Also, in order to implement the Clean Air Act, the US Environmental Protection Agency has issued some regulations and jointly formed the CAA legal system. CAA is a law applicable to the whole country, which is uniformly implemented by the Environmental Protection Bureau. Each state specifies how to implement the provisions of CAA by formulating its own "state implementation plan". In fact, the "state implementation plan" is the corresponding regulations formulated by the states according to the CAA.

The environmental regulations of the United States are very detailed. It is difficult to ensure the reduction of pollution emissions only by pollutant emission limits. Therefore, the United States has formulated various implementation regulations. The legislation of the United States mainly focuses on strict emission regulations and manages new vehicles through emission certification. According to the Clean Air Act and the Noise Prevention Act, the National Environmental Protection Agency of the United States has formulated a strict Federal Motor Vehicle Administration Act to certify vehicles and their related equipment. The emission control of in-service
vehicles is mainly carried out through the implementation of in-service vehicle inspection and maintenance system.

B. Legislative Experience of European Union (EU)

The control of vehicle exhaust pollution in Europe is realized by the exhaust emission regulations of the European Economic Commission and the EU exhaust emission directive. Motor vehicle exhaust emission regulations are voluntarily adopted and mutually recognized by participating countries. The exhaust emission directive is enforced by EU participating countries. The European economic community has formed a unified regulation on emission control. In 1958, the emission regulations for automobiles and motorcycles were adopted. In 1970, the Economic Commission for Europe stipulated ECE-R15 series emission control regulations for gasoline cars. The limit values were revised every four years, gradually forming limits No. 01, 02, 03 and 04.

Since 1960, the Economic Commission for Europe has promulgated and implemented more than 100 emission regulations, such as the Council Directive on coordinating the laws of Member States to take measures to prevent and control the emission of gaseous pollutants from vehicle diesel engines, the law on coordinating the measures taken by Member States to prevent air pollution caused by motor vehicle emissions, and a series of laws.

C. Legislative Experience of Japan

Japan's automobile emission control regulations are comparatively strict in the world, and the requirements for manufacturers' products are also comparatively harsh. Japan's general principle on the prevention and control of motor vehicle emission pollution is the Air Pollution Prevention and Control Law. The Law on Special Measures for the Total Amount Control of Nitrogen Oxides Emitted by Motor Vehicles in Designated Areas stipulates that the total amount control system is tried in the field of motor vehicle pollution prevention and control. Road Transport Vehicle Law and Road Traffic Law also stipulate the prevention and control of motor vehicle pollution. Japan is more through local government legislation to specifically control motor vehicle exhaust pollution.

Japan has designated special control areas through these laws and regulations to control the total emission of nitrogen oxides from motor vehicles in the region; regulate emission standards for quantity and concentration of harmful gases from motor vehicle exhaust. It is stipulated that motor vehicles must be equipped with tail gas purification devices; Restrict the fuel used by motor vehicles; Delimit or stipulate the areas, sections, time, speed and other pollution prevention and control measures that restrict or prohibit the passage of motor vehicles.

D. Revelation of Foreign Legislation to China

Through the legislative investigation of the above countries and regions, we can sum up the following experience: first, these countries and regions generally have a high level of legislation, and there are special prevention and control laws, and the legislation is relatively detailed, which can be seen from the number of legislation, which reflects that they attach great importance to this issue. Second, the management responsibilities in legislation are very clear. The central and local governments have a clear division of labor and have special management departments. Third, the legal responsibility is very clear.

V. SUGGESTIONS ON LEGISLATION FOR PREVENTION AND CONTROL OF MOTOR VEHICLE EMISSION POLLUTION IN CHINA

To formulate special prevention and control laws and regulations, it is suggested that the State Council formulate a special motor vehicle pollution prevention and control law on the basis of the revision of the Air Pollution Prevention and Control Law. As an administrative law and regulation, on the one hand, it can make up for the defects of the current low legislative level in China. At the same time, it is suggested to make detailed provisions on the Air Pollution Prevention and Control Law and specify various specific systems in special chapters and sections. For example, quality assurance system, recall system, environmental protection classification mark system, public reporting system, motor vehicle pollution prevention fund system, etc. At the same time, it can determine the leading position of environmental protection departments, clarify the functions and responsibilities of public security, transportation and other departments, and strengthen the supervision and management measures for vehicles with high pollution emissions, so as to provide a strong legal guarantee for this work.

Supporting relevant legislation. Only the law on the prevention and control of air pollution and a special administrative regulation still cannot meet the needs of the current pollution prevention and control work. The Ministry of environmental protection and other departments need to issue some rules. These supporting legislation can be formulated according to various specific systems. For example, it is necessary to prevent pollution caused by recycling, dismantling and disposal of scrapped vehicles. There is secondary pollution in the recycling, dismantling and disposal of scrapped vehicles. Many enterprises that disassemble and dispose of scrapped vehicles have simple equipment, only hammers, wrenches and other tools, not to mention pollution prevention and control equipment and facilities.

For another example, China's current vehicle fuel standards are not synchronized with vehicle emission standards. Laws and regulations have only a few principled provisions on the supervision and inspection of the production and sales of vehicle fuel and oil additives, and an effective quality supervision and management system has not been formed. Therefore, a regulation is also needed for fuel quality supervision and management.

The Measures for the Administration of Motor Vehicle Emission Pollution Prevention and Control Fund is also necessary for the prevention and control work. This regulation can specify the fund raising subject, fund raising method and source, fund management method, fund use system, etc. In addition, regulations such as the Special Plan for Motor Vehicle Pollution Prevention and Control, the Measures for Emergency Management of Motor Vehicle Pollution Prevention and Control, and the Punishment Procedure for Motor Vehicle Pollution Prevention and Control should be considered.

References

