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Environmental regulatory and policy framework in China: an overview

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Abstract: China has developed one of the most comprehensive environmental regulatory and policy framework in the world. This paper provides a description of the main institutions for environmental management in China, and overviews the regulatory and policy framework in place.

Key words: environmental protection; institution; regulatory framework; policy

1 Main institutions and changes

1.1 Environmental protection leading group

The first organization concerned solely with environmental protection, the Environmental Protection Leading Group (Leading Group) was set up under the State Council in 1974, which was formed to co-ordinate environmental protection at national level. Since then, the institutions for environmental protection have developed and undergone changes several times.

1.2 EPA-SEPA

In 1982, the Environmental Protection Agency (EPA) was established under the Ministry of Urban and Rural Construction, the name of which was changed to the Ministry of Urban and Rural Construction and Environmental Protection. EPA then had some authority to issue regulations and guidelines. In 1988, the EPA was raised from a bureau under the Ministry of Urban and Rural Construction and Environmental Protection to an agency directly under the State Council, and its name changed to the National Environmental Protection Agency (NEPA) (Editing Group, 1991; Sinkule, 1995). Then, in March of 1998, as the New Premier Zhu launched a fundamental reorganization of governmental agencies, NEPA was raised again from an agency at semi-ministry level to ministry level and the name changed to State Environmental Protection Administration (SEPA). In this reform, SEPA is the only agency which has been raised in terms of official rank, indicating that the Chinese government finds environmental protection an increasingly critical issue, and is paying serious attention to environmental management (Ma, 1998). In the course of the changes, the main responsibility of NEPA-SEPA has focused increasingly on the development of the regulatory system, and on monitoring and supervision of environmental performances of various actors.

1.3 EPB and EPO

The government organizations concerned with environmental protection and management are organized along two lines: the environmental protection bureaus and environmental protection offices (EPBs and EPOs). The EPBs and EPOs are departments at each level of government below the national level, i.e., provincial, city, county, district, town and village. Their function is to carry out national and local environmental regulatory programs and to serve as the enforcement agencies of the NEPA (SEPA). They have also the responsibility to monitor, maintain records and collect fees.

In addition to EPBs and EPOs under NEPA (SEPA), some industrial ministries (bureaus) also have environmental protection offices at various governmental levels. The EPO within a

ministry (bureau) serves as an intermediary between EPBs and factories. EPOs are also responsible for helping the factories within their industry develop waste treatment technologies. Some large factories also have their own environmental departments or offices, which are responsible for the pollution control necessary for the factory to meet regulations.

1.4 EPC

Under the State Council there is another line for environmental protection for coordinating the environmental protection works among ministries, the Environmental Protection Commissions (EPCs). The National Environmental Protection Commission under the State Council was established in 1984. It consists of members from 24 other ministries and commissions and is headed by the Vice - Premier. It is responsible for approving guidelines and policies on environmental protection, advocating new programs, providing leadership and policy direction, and coordinating environmental protection activities at the national level. EPCs have also been established at the provincial and lower levels of government.

1.5 NEPC-NEPRCC

In March of 1994, the Second Plenary Session of Eighth National People's Congress (NPC) decided to change the name of National Environmental Protection Commission (NEPC) to National Environmental Protection and Resources Conservation Commission (NEPRCC). NEPRCC has a number of responsibilities: the formulation of laws and regulations regarding resource conservation and environmental protection; examination of proposals for environment and resources conservation; and providing support to the standing committee of NPC for supervision of the enforcement of laws and regulations regarding environment and resources.

Thus there is in place in China a nationwide network of regulatory bureaus, and representation for the SEPA within industry sector bureaus and within larger factories. This provides a robust and extensive basis for strengthening the environmental performance in all sectors, and in particular industry.

2 Laws and regulations for environmental management

2.1 Legal framework

Although there had been government regulations in place for water and soil conservation, safe drinking water, and forestry since the 1950s and 1960s (Ross, 1987), the real starting point for environmental protection in China is generally thought of as the first national conference on environmental protection held in 1973 (Editorial Board, 1994).

A legal basis for environmental protection was established by Article 26 of the Constitution of the People's Republic of China. It declares that "the State protects the environment and natural resources and prevents and eliminates pollution and other hazards to the public". In 1997, a new section addressing Crimes of damaging environmental and resource protection "was added into the revised Criminal Law of People's Republic of China". This was an important breakthrough, being the first piece of legislation concerned with environmental crime in China (SEPA, 1998). The Environmental Protection Law of the People's Republic of China (for trial implementation) was promulgated in 1979. In 1989, the Environmental Protection Law and its trial status was eliminated.

Since 1979, several regulations, systems and policies were designed and issued by governments at the national and local levels. China has thus far issued 6 environmental protection laws, 9 resource conservation laws and 28 pieces of environmental administrative regulation. In addition, over 70 regulations have been issued by environmental protection bureaus and over 900 regulations by local governments. By the end of 1997, China had 361 national environmental standards and 29 sector standards. Of these, there were 11 environmental quality standards, 79 pollution emission standards, 231 monitoring methods standards, 29 standards for sampling, and

11 basic standards (SEPA, 1998).

2.2 Regulatory framework

The system of environmental policies implemented in China can be summarized as covering three fields at four government levels (Ma, 1996; 1998; Zhang, 1997).

The three fields are: Environmental pollution prevention and treatment; rural ecology and biodiversity conservation; rational exploitation and utilization of natural resources.

The policies at four governmental levels are: (1) Laws on or related to environmental protection formulated and issued by National People's Congress (NPC), such as the Law on Environmental Protection, the Law on Air Pollution Prevention and Control, the Law of Forests, and the Law of Mineral Resources; (2) Administrative regulations formulated and issued by the State Council, such as the Pollution Levy System; (3) Administrative regulations formulated and issued by ministries/commissions under the State Council; (4) Regulations and policies formulated and issued by local people's congress and local government.

In the environmental policy/legal framework, national laws provide the principles for environmental policy-making and legal base for policy implementation. The State Council and ministries/commissions under it are the real policy makers for environmental protection. They constitute a link between the higher and lower levels of actors involved in decision making process and play the most important role; they not only need to reflect national laws correctly in concrete policy measures, but also need to provide guidelines on policy direction for those responsible for implementation of policies-local government, agencies in charge of different industries, and other grass roots institutions. The local laws, regulations and policies are made to address local problems on the basis of national laws and policies as principles (Ma, 1998; Zhang, 1997).

3 Environmental policies in China

3.1 Ten major policies

The central core of environmental pollution prevention for industry in China is constituted by 8 national policies implemented by environmental bureaus. The 8 policies are also called "eight systems". Of the eight systems, Three Synchronizations, environmental impact assessment (EIA), and the pollution levy on discharges in exceeding of standards were developed in late 70s, and formally announced in the Environmental Protection Law in 1979 (for trial implementation) and were also called "Three Old Systems". In 1989, when the Environmental Protection Law was amended and its trial status removed, five more systems were developed to solve the problems that the old three programs could not handle. They were called "Five New Systems", which are: the target responsibility system for environmental projection; the system for the quantitative examination of comprehensive improvement of urban environments; the pollution discharge permit system; the system of centralized pollution control; and time-limited treatment of pollution (Ma, 1998; Zhang, 1997; Editing Group, 1991; Sinkule, 1995).

In addition to the eight policies, cleaner production can be seen as a complementary policy to environmental protection. The State Council approved the newest national policy for pollution control in China, Total Emission Control for Major Pollutant Discharges (TEC) in September of 1996. TEC together with the Trans-century Green Project Plan were declared as the two principle measures of environmental protection in China during the 9th 5-year plan period, at the Fourth National Conference on Environmental Protection (1996).

3.1.1 Environmental impact assessment (EIA)

EIA has its legal basis in the Environmental Protection Law of 1979. The central idea of EIA is to conduct analyses that forecast and evaluate likely adverse environmental effects that would accompany a proposed project. Article 6 of this law specifies that "the site selection, design, construction and production of all enterprises must pay enough attention to prevent the pollution

and destruction of environment. All the new, expansion and innovation projects must provide environmental impact assessment reports. Only after the approval of the environmental bureaus and other sectors concerned, the design of the project can take place". The Article 5 stipulates that, "during the renovation of old urban areas and construction of new urban areas, the environmental impact assessment should be conducted on industrial zones, residential zones, public utilities, and green belts". Approval and disapproval of EIAs is under the authority of EPBs and environmental protection offices (EPOs) at city or county level or higher.

3.1.2 The Three Synchronization

The Three Synchronization policy requires that design, construction, and operation of pollution treatment facilities is coordinated with the design, construction and operation of the overall project. It applies to all new factories and to major expansions or modifications and innovation of existing plants.

As a national environmental system, the Three Synchronization is clearly stipulated in Articles 26 of the 1979 Environmental Protection Law of the People's Republic of China: "Installations for the prevention and control of pollution at a construction project must be designed, built and commissioned together with the principal part of the project. No permission shall be given for a construction project to be commissioned or used, until its installations for the prevention and control of pollution are examined and considered up to the standard by the competent department of environmental protection administration that examined and approved the environmental impact statement".

3.1.3 Pollution charges

The Environmental Protection Laws of 1979 and 1989 provide the legal basis for the collection of pollutant discharge fees. Since the early 1980's, six national regulations for the collection and the use of pollution charges on industrial wastewater, air pollution, solid waste, and noise have been promulgated. The level of the pollution charge on wastewater, waste air, and noise is based on the number of times that a pollutant discharged exceeds the national discharge standard for that pollutant.

In addition to the fees payable for pollutants exceeding the national standards (in Chinese official language, they are called "normal fees"), polluters are required to pay four other types of related fees in respect of violations of the payment of normal fees or standards. These are called the "four small pieces", which includes: a 5 percent additional charge levied on polluters who have paid charges for 3 years; double charges for violation of the Three Synchronizations regulation (for new enterprises) or where existing enterprises shut down their pollution treatment facilities without approval by the EPBs; additional charges at rate of 0.1 % per day on late payments; fines for illegal discharges, including dilution and environmental accident.

Enterprises are allowed to count the "normal fees" as part of their production cost (before income tax), but the four small pieces cannot be counted as part of production costs, and must be paid from enterprises' own funds (after income tax; Ma, 1994).

3.1.4 The discharge permit system (DPS)

The DPS requires that waste sources above a certain size receive a permit before discharging waste. The permit defines legally allowable discharges in terms of maximum pollutant concentrations and discharge volumes (i.e., pollutant loads; Sinkule, 1995).

In 1988, NEPA promulgated two documents: the temporary methodology for DPS management and several suggestions for trial implementation of the DPS. These documents stipulate that the DPS implementation should involve the following four steps: registration of pollution condition, pollutant load allocation, issuing of permit, and monitoring and enforcement (NEPA, 1988). The DPS has its legal basis in Environmental Protection Law (Article 27), Law on Water Pollution Prevention and Control (Article 14), and Law on Air Pollution Prevention and

Control.

3.1.5 Environmental responsibility system (ERS)

ERS aims to assign responsibility for overall environmental quality to officials in local government. Thus the provincial governor is held responsible for overall environmental quality in a province and the mayor of a municipality or magistrate of a county is responsible in their respective jurisdictions (Sinkule, 1995; Editing Group, 1991). This regulation was introduced early 1980s, due to the fact that responsibility for environmental quality lay with the environmental protection bureaux, but they had no power over the economic and social development decisions that affected environmental quality (Qu, 1991).

The ERS is implemented through written contracts or agreements, each of which stipulates the environmental targets for a particular time period. There are two types of ERS contracts: contracts among heads of different levels of government; and contracts between governmental officials and factory directors (Sinkule, 1995; Editing Group, 1991). ERS has its legal basis in The Constitution of PRC (Article 26), and Environmental Protection Law (Article 16; 24).

3.1.6 Quantitative assessment of urban environments

Under this system, NEPA (now SEPA) conducts an annual, quantitative assessment of environmental quality in 32 major cities. Twenty indices covering the areas of air, water, solid waste, noise, and afforestation are evaluated and weighted to give with an overall score for each city. In addition to the 32 cities, provinces and autonomous regions can make similar assessments for the cities under their jurisdiction.

On the basis of this quantitative examination, a campaign to establish model cities was initiated. There are 27 indicators, including social, economic and environmental quality indices, as well as a number of different indicators of the urban environmental construction and management level. By the end of 1997, 6 cities had passed examination and were honored to be model cities for environmental protection.

3.1.7 Centralized pollution control (CPC)

CPC is a system designed to respond to the inadequacy of the earlier emphasis on controlling waste from individual sources. This regulation recognizes the economies of scale in treatment of wastes. It is recognized that earlier approaches based on controls from individual sources have not been sufficient to improve regional environmental quality. However, centralized control complements rather than replaces pollution reduction at individual sources (Sinkule, 1995).

3.1.8 Limited time treatment (LTT)

The LTT system was first proposed in 1973 during the First National Conference on Environmental Protection, which proposed issuing deadlines or committed programs for heavily polluted towns, industrial enterprises, rivers, lakes and ocean bays to improve environmental quality. During the Third National Conference on Environmental Protection held in April 1989, LTT was included in the new five systems. The Environmental Protection Law in 1989 provided a legal basis for the LTT (Article 18; 29; 39; Editing Group, 1991).

3.1.9 Cleaner production

A program for cleaner production has been established. Since 1993, NEPA has been working with the State Economy and Trade Commission, and organized two workshops for Industrial Pollution Prevention and Control, at which it was clearly stated that the industrial pollution prevention and control must change from focusing only on the end of pipe treatment to life cycle control for production, and should implement cleaner production. In 1996, State Council issued "Some Decisions for Environmental Protection", and regulated that the new established, expansion and modification and innovation projects should introduce high technology, and try to use the cleaner production technology, which is consuming less of raw materials and energy, with lower emission of pollutants. In 1997, "Some Suggestions for Promoting Cleaner Protection" and

"Guidelines for Promoting Cleaner Protection during the 9th 5-year Plan Period of NEPA" was issued by NEPA.

3.1.10 Total emission control for major pollutants (TEC)

TEC was first proposed in 1995. Based on The National Ninth Five-year Plan for Environmental Protection and the Long-term Targets for the Year 2010, The Ninth Five-year Plan for Total Amount Control for Major Pollutants was developed by NEPA and officially approved by the State Council in September of 1996. It sets up environmental targets of China (Covering emission, ambient environmental quality, and waste treatment requirement) for the year 2000. It puts more emphasis on such areas as: the three river basins, Huaihe River, Haihe River, and Liaohe River; the three lakes—Taihu, Chaohu, and Dianchi; and two acid rain and sulfur dioxide control regions.

3.2 Economic policies for managing environment and natural resources

China has, over the years, established a large number of charges or fees for environmental management, as listed below.

(1) Policies implemented by Environmental Authorities: Pollution levy system; Emission registration and emission permit system; Three Synchronization; Ecological compensation payments; tradable production quotas for halon agents together with a bidding mechanism for selling back the quota to government. (2) Policies implemented by Sector Bureaus: Compensation payment for extraction of mineral resources; Compensation payment for land loss; Environmental investment in Urban Construction; Recycling of wastes; Tree planting fund; Forestry fund; Designated forestry fund of industrial sectors; Favorable loans for forestry. (3) Policies implemented by Municipal Authorities: Tax for urban and rural land use; Tax for occupation of arable land; Tax for renovation and renewal of rural and urban buildings; Resource tax; Comprehensive utilization of resources; Designation of profit from recycling for environmental investment; Environmental investment within technical renovation of enterprises; Cleaner production; Environment industry subsidies; Public expenditure and tax policy; Bank loans.

All of these 24 instruments are seen within the Chinese literature as economic instruments for environmental management and economic instruments must be seen as being broadly defined (Zhang, 1997). There are clearly a number of charges for use of the environment, which are used for revenue raising, and it is interesting and important for China's environmental management that a number of the funds for which revenues are raised through charges are earmarked.

The instruments with the most direct impact on industrial environmental management are those administered directly by the environmental authorities. In addition there are a number of policies which provide funds for environmental investments for industry.

4 Conclusion

Based on the discussion above, one can conclude that there is a well-established policy framework and institutional structure for environmental management in China. However, the key question is whether this set up has been successful in improving environmental management in the industrial sector. There are some major factors affect the effectiveness of the policies discussed, for example, whether the policies has been designed to reflect and address the real situation, whether enough monitoring instruments in place, whether an enforcement scheme has been set up for non compliance, whether all the target group has been full informed, and so on. Such problems indeed exist and the author will discuss those in separate paper.

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