A CHINA ENVIRONMENTAL HEALTH PROJECT RESEARCH BRIEF

This research brief was produced as part of the China Environment Forum's partnership with Western Kentucky University on the USAID-supported China Environmental Health Project

By Zhang Jialing

15 June 2007

The Management of Hazardous Waste in China

Current Situation

In 2004, more than 9.45 million tons of hazardous waste were produced in China alone. With rapid economic development, the quantity of solid waste continues to dramatically increase. As hazardous waste has toxic, reactive, flammable, corrosive and infectious properties, it poses a direct hazard to both human and environmental health, making it arguably the most important aspect of solid waste management.

Of the total hazardous waste generated, 40 percent was produced by the chemical materials and products industry. The majority of hazardous waste consists of waste alkali, waste acid, inorganic fluoride waste, copper waste, and inorganic cyanide waste. In total, 44% of this hazardous waste was recycled, 27% was stored, 13.5% was treated and disposed of, and 15.4% was discharged into the environment untreated.

Overall, solid waste management has become a huge challenge to China, but with the growing number of laws and international assistance there are many opportunities to strengthen its management and better protect the environment.

FRAMEWORK OF LAWS, REGULATIONS AND POLICIES ON HAZARDOUS WASTE

Since the 1990s, China has promulgated a series of solid waste management laws, regulations and standards. Since 2000, China passed and implemented new laws and policies that have sped up progress on the management of hazardous wastes. The framework of hazardous waste legislation has 5 levels, ranging from foundation national laws to local standards. Core legislation includes:

First Level Foundational Laws: National People Congress/Central Government

Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and Their Disposal, approved on September 4, 1991. China has ratified this international agreement preventing the movement of hazardous waste from OECD to non-OECD countries and uses it as foundation for the country's hazardous waste management framework.

Law on Prevention and Control of Environmental Pollution Caused by Solid Waste, adopted in October 30, 1995, amended in December 12, 2004. This law comprehensively regulates the system of prevention and treatment of solid waste environmental pollution. It is divided into these general terms: supervision and management of environmental pollution by solid waste, prevention and treatment of environmental pollution by solid waste, special stipulation on the prevention of environmental pollution caused by hazardous waste, legal responsibilities and appendices.

Second Level: State Council Regulations

- Regulation on Medical Waste Management, adopted on June 4, 2003, effective as of June 16, 2003.

- Procedure for Applying for a Hazardous Waste Operation Permit, adopted on May 19, 2004, effective as of July 1, 2004.

Third Level: National Standards from Ministries

- Identification Standard on Hazardous Waste GB5085.1-3-1996
- Standard on the Pollution Control of Incineration of Hazardous Waste GB 18484−2001
- Standard on the Pollution Control in the Storage of Hazardous Waste GB 18597−2001
- Standard on the Pollution Control in Landfilling Hazardous Waste GB 18598−2001
- Rule on Tracking the Manifest of Hazardous Waste, promulgated by SEPA on June 22, 1999, effective as of October 1, 1999
- National Catalogue of Hazardous Waste, promulgated by SEPA, Ministry of Public Security, former Ministry of Foreign Economy and Trade, and former State Economic and Trade Committee on January 4, 1998, effective as of July 1, 1998

Fourth Level: National Policy for Construction and Treatment Facilities

- Construction Plan on Hazardous Waste and Medical Waste Facilities, approved by State Council, issued by SEPA, NDRC (National Development and Reform Commission) on Jan. 19, 2004
- Technical Requirement for the Construction of Facility Incinerating Hazardous Waste, issued by SEPA in 2004, amended in 2005

Fifth Level Local Regulations: Provincial People's Congresses

- Shanghai's Regulation on Prevention and Control of Environmental Pollution Caused by Hazardous Waste, adopted in 1995 and amended in 2002.

MANAGEMENT MECHANISM FOR HAZARDOUS WASTE

The principle of hazardous waste management in China is "from cradle to grave," which means that the whole process of hazardous waste production, collection, delivery, storage, treatment and disposal falls under pollution control management, prevention and treatment laws and policies. The main systems for hazardous waste management are as follows:

Declaration and registration system: According to Article 32 of the Law on Prevention and Control of Environmental Pollution Caused by Solid Waste, solid waste producers must declare and register information concerning solid waste varieties, amounts, flow directions, storage, and treatment to the environmental protection bureau of the regional government above the county level. To carry out this policy, in July 2006, SEPA issued "The Large and Medium City Solid Waste Pollution Prevention Information Distribution Guiding Principle"（《大中城市固体废物污染环境防治信息发布导则》） that requires every city to issue their solid waste pollution information, especially hazardous, medical, and municipal wastes. Tianjin, Jinan, Xian, and Ningbo have already released this information on their municipal government websites.

List regulation and distinguishing standards of hazardous waste: In 1998, China issued the Catalogue of National Hazardous Waste, which lists all wastes classified as hazardous. This catalogue specifically encourages the inclusion of nickel and barium to follow the Basel Convention.

Various disposal requirements (disposal by producer, disposal on another's behalf, and the centralized handling system): According to the principle of "handling by producer" in the Law on Prevention and Control of Environmental Pollution Caused by Solid Waste, producers are obliged to appropriately handle the hazardous waste they produce, whether it is treated directly (self treatment) or indirectly (entrusted to others). The local government above the county level shall initiate the construction of facilities for the centralized treatment of hazardous waste.

Every province and autonomous region must establish a disposal complex for industrial waste and a storehouse for radioactive waste built in accordance with the construction plan in the 2004 regulation, "Hazardous Waste and Medical Waste Facilities," estimated to cost 14.92 billion Yuan (about $1.8 billion). In addition, 300 cities are required to set up collection and disposal centers for medical waste. Many medical waste incineration facilities have already been constructed and are operating in major cities.

Penalty system for hazardous waste emissions: Hazardous waste charges shall be collected from hazardous waste places in landfills and from institutes and individuals that do not conform to SEPA Regulations. The fees collected shall be used for the prevention and control of environmental pollution from hazardous waste and other sources. The implementation measures for this policy are forthcoming.

Permit system for hazardous waste: The enterprises that are involved in the collection, storage, and treatment of hazardous waste shall apply for permission licenses from the environmental protection bureau (EPB) above the county level, and enterprises that are engaged in business activities regarding hazardous waste shall apply to the EPB above the provincial level. It is prohibited for enterprises without licenses or enterprises operating outside of their licenses to engage in collection, storage or treatment. To carry on this policy, SEPA released "Application Procedure for Hazardous Waste Operation Permit" on May 19, 2004, effective July 1, 2004. As of June 2007, SEPA issued 13 hazardous waste permit licenses, and the provincial and city EPB issued about 800 permit licenses.

Manifest Tracking system of hazardous waste: The system of manifest tracking (also called the Transfer and Reporting Bill) refers to the registration of hazardous waste. The system has fixed procedures on when reports are to be made to the relevant EPB on the delivery and transfer of hazardous wastes.

Assessment system of environmental impact and system of three simultaneous principle: The establishment of projects that generate solid waste and projects that store, utilize and handle solid waste are required to carry out an environmental impact assessment and must comply with national regulations concerning environmental protection management in the planning, construction, and management of projects (the three simultaneous principle).

Time limit requirements for treatment: The time limit for the treatment of serious solid waste pollution shall be specified by the EPB above the county level according to the purview of the State Council. Those that fail to complete the treatment tasks within the time limit will be shutdown.

INTERNATIONAL PROJECTS FOCUSED ON HAZARDOUS WASTE MANAGEMENT

In recent years, SEPA has begun to cooperate with international organizations and the environmental protection departments of various developed countries to improve China's hazardous waste management.

In April 2006, SEPA and the U.S. Environmental Protection Agency (EPA) set forth a framework for collaboration on the prevention, management, and remediation of hazardous and solid waste in China. The goal of this joint strategy is to reduce risks to human health and the environment by preventing and minimizing hazardous and solid waste, by managing waste treatment, storage, and disposal, and by remediating contaminated hazardous waste areas. This program has thus far been successful and, in April 2007, SEPA held a training program on hazardous waste management and disposal where experts from the U.S. EPA gave detailed introductions of their work with hazardous waste permits and supervision.

In 2006, SEPA and Norway initiated a cooperative program to promote the use of cement kilns to dispose of hazardous and industrial waste in China.

In addition to these SEPA programs of international cooperation in hazardous waste management, there are other smaller-scale programs conducted at the provincial environmental protection bureau (EPB) level. For example, the United Nations Industrial Development Organization (UNIDO) partnered with Shandong and Sichuan provincial EPBs and the German Technical Cooperation (GTZ) partnered with Zhejiang provincial EPB to promote hazardous waste management.

REMAINING CHALLENGES

Compared with the progress made in water and air pollution control in China, the environmental management of solid waste lags behind. This is evidenced by an incomplete system of environmental statistics, insufficient treatment and handling facilities, and a shortage of capital and management, all of which gives rise to continued serious solid waste pollution in China.

Solutions to the solid waste pollution problem include strengthening enforcement and improving regulations and standards. Strengthening enforcement requires establishing solid waste management and supervision and information network of the central state, provinces, municipalities and autonomous regions; enhancing the command and collaboration of solid waste management centers in provinces and major cities; increasing professional staff; and strengthening basic supervision of solid waste and the whole process. Improving regulations and standards of hazardous waste will require improving the declaration and registration system, and clarifying standards for the hazardous waste management system.

REFERENCES

Department of Pollution Control, SEPA. (May, 2005). "Environmental management of solid wastes in China."

"China to tighten hazardous waste management." (June 18, 2004). *Xinhua News Agency* on *People's Daily Online*. [Online]. Available:
<http://english.people.com.cn/200406/18/eng20040618_146742.html>