How to Improve Transportation Safety Management of Dangerous Goods in China: From the Perspective of Legislation

Yan-xia LI and Zhi-hua DING∗
China Academy of Transportation Sciences, Beijing, China
∗Corresponding author

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Abstract. The legislation plays a critical role in improving the transportation safety management of dangerous goods in China. The problems in current legislations of the country on transportation safety management of dangerous goods including lower level of legal effect of many laws and regulations among them, uniformity among the definitions of dangerous goods and provisions concerning its transportation safety management and so on are discovered. For them, unifying the definition of dangerous goods, establishing a centralized system of transportation safety management and other appropriate countermeasures should be taken in order to improve the transportation safety management of dangerous goods in China.

Introduction

The serious traffic accident happened at Yanhou tunnel of Jincheng-Jiyuan Expressway in Shanxi province on March 1, 2014 and the major fire and explosion accident happened at the dangerous goods warehouse of Ruihai Company at Tianjin Harbour on August 12, 2015 and others have exposed many problems in transportation safety management of dangerous goods and reflected many requirements for related institutional construction in China. With the challenges for the transportation safety management of dangerous goods, how should the legislation be improved for better regulating related activities? How should related institutional innovation be made for providing the government management direction and instruments? What can be learned from the transportation safety management of dangerous goods in other countries? It is urgent to study and resolve these problems in order to improve transportation safety management of dangerous goods.

Current Situation of the Legislations on Transportation Safety Management of Dangerous Goods in China

Seen from their purpose and content, the legislations on transportation safety management of dangerous goods in China cover the two parts. The first part doesn’t focus on the regulation on the transportation safety management of dangerous goods, but only involves the transportation safety management thereof, and the second part focuses on the transportation safety management of dangerous goods in all respects, and can be named as special legislation. According to transport mode, the latter can be further divided into the legislations respectively for land, water, air and railway transport.

For recent years, the state has paid more attention to the safety management for transportation of dangerous goods, issuing a series of laws and regulations and initially building a system of laws in respect of transportation safety management of dangerous goods. Specifically, such laws include Safety Production Law, Law on Prevention and Control of Radioactive Pollution, Maritime Traffic Safety Law, Maritime Law, Civil Aviation Law, Law of Ports, Railway Law, Customs Law, and the related administrative regulations include Regulation on the Safety Administration of Dangerous Chemicals, Regulations on Safety Management of Radioactive Materials Transportation, Regulation on the Prevention and Control of Vessel-Induced Pollution to the Marine Environment, Regulations for Safety Control of Explosives for Civil Use, Regulations on Safe Transportation of Radioactive

The implementation of Production Safety Law, Maritime Traffic Safety Law, Civil Aviation Law, Law of Ports, Railway Law, Regulations on Safety Administration of Dangerous Chemicals, Regulation on Road Transport, and Regulation on the Administration of Railway Safety, basically forms a new pattern of transportation safety management of dangerous goods, and the Administrative Rules for Transport of Dangerous Goods for Civil Aviation in China, Rules on the Control of Transportation of Hazardous Goods by Roads, Administrative Rules on Safety Supervision on Vessel Carrying Dangerous Goods, the Rules on Safety Administration of Dangerous Goods at Ports, and Administrative and Supervision Provisions on Transportation Safety of Dangerous Goods by Railways, further regulate and perfect the system of safety administration responsibility for transportation of dangerous goods by road, water, railway and air, in more details, and specify the requirements for the safety responsibilities of road transport enterprises, operators of public air transportation, operational units, shippers of dangerous goods, shipping company, ships, shipmen and employees. Meanwhile, the system of responsibility investigation for safety supervision and administration is improved, which carries out the requirements for the system of responsibility for safety supervision and administration in all respects, through responsibility investigation and leadership responsibility. Such system effectively drives the law enforcement to perform its duty strictly according to laws, and prevents the misuse of authority, favoritism, and dereliction of duty.

In addition, seeing from the quantity, the legislations on waterway transportation (mostly maritime transportation) are the most, and the legislations in relation to road transportation are less, and the legislations in relation to railway and air transportation are the least. The legislation for each subfield is based on the national laws with higher legal effect, and corresponding regulations and rules are made with reference to international conventions, embodying the internationalization trend.

**Major Problems in the Legislations on Transportation Safety Management of Dangerous Goods in China**

The system of laws and regulations, although having been established in China, is not sound, and complicated, and does not support each other. The amendment thereof falls back in time. Some rules
between departments are contradictory to each other, and contain much of the same nature. Such problems are shown in the following aspects.

As regards the hierarchy of law, most of laws and regulations in the legislation system of transportation safety management of dangerous goods are in lower level of legal effect. The highest-level legal document especially and systematically regulating the dangerous goods in China is The Regulations on Safety Administration of Hazardous Chemicals, which is just an administrative regulation and focuses less on the transportation safety of dangerous goods. Other parts have a lower-level legal effect and a limited function of deterrence. Although the Regulations on the Safety Administration of Dangerous Chemicals and others formulated by the State Council are only lower than laws in the hierarchy of legal effect, their application is restricted by higher-level laws in their specific application, so that they cannot resolve the relevant conflicts effectively and quickly.

As regards the uniformity of law, there are some conflicts among laws and regulations in the legislation system of transportation safety management of dangerous goods. Presently, the provisions concerning the transportation safety of dangerous goods are scattered in over 20 laws and regulations, such as Production Safety Law, Regulations on Safety Administration of Hazardous Chemicals, Regulations on safety management of radioactive materials transportation, and Regulation on Road Transport. Existing laws, regulations and rules mostly have a tint of department, are not systematic, and cannot connect the inter-department regulations and rules. Some provisions concerning water and railroad transportation and those concerning marine and inland waterway transportation are inconsistent.

As regards the critical concept, the definitions of dangerous goods in existing laws and regulations are inconsistent. The existing laws and regulations fail to define “dangerous goods” and departmental rules only define the category of dangerous goods for each mode of transportation. For example, Catalogue of Hazardous Chemicals, made by the State in 2015 according to Regulations on Safety Administration of Hazardous Chemicals, covers the links of production, operation, storage, transportation and use of dangerous chemicals. However, according to international common criteria and current national standards, at least 800 categories of dangerous chemicals specified in such Catalogue are not dangerous goods, and at least 600 categories are not listed in the Catalogue. As another example, the Rules on Safety Administration of Dangerous goods at Ports (“Order 9” for short) and the Administrative Rules on Safety Supervision on Shipborne Dangerous Goods (“Order 10” for short) define “dangerous goods” in a different manner. Specifically, Order 9 adds a “pollution hazard property” to the definition of “dangerous goods” by Order 9, and such addition widens the scope of “dangerous goods” specified in Order 9.

As regards the application of law, there are fewer practicable detailed rules or technical standards. The Regulations on Safety Administration of Hazardous Chemicals makes provisions on the production, operation, storage, transportation and use of dangerous chemicals, and the disposal of hazardous chemical waste, in China, but does not specify the supervision and the linking between competent authorities. Fundamental and key standards for package, storage and management of dangerous chemicals are not available, exposing that the Regulation on Safety Administration of Hazardous Chemicals, as the main basis for operation of dangerous goods, has an inadequate coverage.

As regards the process supervision, there are fewer rules. It is advisable to implement a “full lifecycle” management over dangerous goods, that is, from the production until final disposal of dangerous chemicals, which is needed for the State to achieve its long-term sustainable development. The existing law and regulation system concerning transportation safety management of dangerous goods focuses more on preliminary matters such as, those on the license of transportation enterprises, equipment and worker qualification, and pass approval, but less on the process of transportation of dangerous goods; it imposes more rigid requirements for market admittance for transportation of dangerous goods, vehicles, ships, airplanes, equipment and other physical conditions, but provide less detailed standards for the operating processes such as packaging, storage, handling, transfer and transportation, failing to embody the management over the en route management over transportation.
of dangerous goods. The key links for guaranteeing the transportation safety of dangerous goods, such as loading management, are absent.

As regards the application of international law, existing laws and regulations concerning transportation safety management of dangerous goods are not in step with, and are often fall behind, international advanced ones. Some goods are treated as dangerous goods under International Maritime Dangerous Goods Code, and may not be taken as dangerous goods in domestic transport section. But such goods are dealt with as dangerous goods in actual operation and management, which increases the management cost and risks to the ports, while the charge for this lacks the corresponding legal basis.

As regards the institutional construction, there are some blanks in existing laws and regulations. There are many institutional blanks in current laws and regulations, which cannot satisfy the requirements for supervision on transportation of dangerous goods. For example, some departmental rules extend the scope of dangerous goods to environmental aspects, but each rule does not contain many provisions regarding environment protection, nor link to related provisions on environment protection. Another example, there is not corresponding management rules on definition of nature, transportation management and operation of bulk dangerous goods, such as bulk liquids, bulk solids and bulk liquefied gas, nor corresponding management and operation provisions or standards on dangerous goods in container. As a result, the transportation and management of dangerous goods in bulk or containers are not based on laws.

Contermeasures for Improving the Legislations on Transportation Safety Management of Dangerous Goods in China

The transportation safety of dangerous goods has a significant influence on public safety. The US, Japan, Germany and other advanced countries, attaching importance to this issue, have established a uniform and perfect legislation system for transportation safety management of dangerous goods. The legislations in these countries have the following characteristics. The legal effect level of such legislations is higher. For example, Japan regulates its transportation of dangerous goods by using Fire Control Law as the leader, and Germany has made the Law of Federal Republic of Germany on Transportation of Dangerous Goods, as the basic law for the industry of transportation of dangerous goods. They are systematic and comprehensive, and pay more attentions to the full process management. US Federal Rules on Dangerous Goods cover various modes of transportation, such as railway, waterway and railway. Japan’s Fire Control Law and the Law of Federal Republic of Germany on Transportation of Dangerous Goods regulate the various links of production, storage, packaging, transportation, handling, shipping document and disposal of dangerous goods. Furthermore, the regulation for related professionals is strengthened. All the persons involving in the transportation of dangerous goods, including drivers, carriers, storage managers, shippers, handlers, consultants and related enterprise personnel, and the persons filling in shipping documents, are regulated in a detailed manner. Finally, a refined safety management system is available. For example, Japan has a management system of safety officer, and Germany has a classified training system for drivers, and both countries have established a mid-way speed limiting and rest system.

By using the advanced foreign experience for reference, the following measures should be taken to improve the legislations on transportation safety management of dangerous goods.

Firstly, unify the definitions of “dangerous goods”. A reasonable and clearly-defined concept of “dangerous goods” is a precondition for building a uniform and perfect system of legislation on safety management of transportation of dangerous goods. In consideration of the domestic use of “dangerous goods” and related concepts, it is necessary to re-define the concept of “dangerous goods”. This concept should cover the basic features of “explosion, flammability, toxicity, infection, corrosion and radioactivity” and have a uniform denotation. This concept should be used in a uniform manner in legislations. Dangerous goods in transportation link are just dangerous goods. The naming can change in different links, but the denotation should not change.
Secondly, establish a relatively centralized system of transportation safety management of dangerous goods. It is required to straighten out the system of transportation management of dangerous goods, to strengthen the inter-department coordination, and to divide the responsibility for management of dangerous goods between administrative agencies of transportation and other departments according to the State Council’s requirement that identical or similar functions are performed by the same department. In particular, it is also required to deal with the multiple management and function overlapping from the authorities of safety supervision, public security, quality supervision inspection and quarantine inspection, environment protection, transport, health, industry and commerce and post service.

Thirdly, elevate the level of force of legislations on transportation safety management of dangerous goods. The Regulations on Safety Administration of Hazardous Chemicals shall be upgraded to Law on Safety Administration of Dangerous goods, in order to elevate the force level of laws relating to dangerous goods. Centering on Law on Safety Administration of Dangerous Goods, supportive legislations shall be made for production, storage, packaging and transportation of dangerous goods, to construct framework laws on uniform safety management for transportation of dangerous goods. Meanwhile, relevant departments can, formulate more rigid departmental rules or policies on the basis of Law of Safety Management of Dangerous Goods, ensuring the legal basis for safety management of dangerous goods.

Fourthly, specify the operational standards for the transportation of dangerous goods. The rate of occurrence of accidents in transportation of dangerous goods is higher than in other links, so more strict legal provisions must be made for the links of potential safety risks in the transportation process of dangerous goods. For example, the provisions on the examination on the qualification of workers engaged in transportation of dangerous goods, and on the inspection of vehicles before transportation, and on the related technical standards in the processes of transportation and handling. The transportation enterprises of dangerous goods in China can set out their respective management method for the transportation of dangerous goods, higher than national standards, according to national laws and regulations, so as to reduce the occurrence of accidents from the source.

Fifthly, establish stricter accreditation system for professionals in the field of dangerous goods. In making laws, it is necessary to provide for the training on professional competence and the improvement of technical skills for the workers at different links involving dangerous goods, by instrumentality of regulations and policies.

References


