



ASSESSMENT AND IMPROVEMENT ON SYSTEM OF LICENSING FOR WORK WITH IONIZING RADIATION IN CHINA

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Abstract

The article outlined regulations, authorities and responsibilities for licensing in China. The health departments at provincial level issue the license certificates to the units engaging in the production, use or sale of radioisotopes or apparatus equipped with radiation source or radiation-emitting apparatus, and have the duty of supervising and monitoring the security about radiation work. For the particular dangers of radiation sources, there is deficiency and shortage of the current licensing system, such as ignorance of the importance of keeping detail records about sources, poor communications among every health department, poor actions to prevent illegal and secret radiation work such as secret use and sale. We are going to improve our licensing system by hardware (computer technology) and software (management).

The most difference between radioactive work and other work is that radioactive work requires special security, being determined by the characteristic of radiation. In China, several departments, including health department, public security department and environmental protection, administer different aspects of radiation work. Health department have the duty of safety about radioactive work such as production, use or sale of radioisotopes and radiation-emitting apparatus, in order to decrease the danger to low levels which people can accept.

1. Regulations, authorities and responsibilities for licensing

In order to strengthen the supervision and management of radiation protection concerning radioisotopes and radiation-emitting devices, the State Council of China promulgated (Regulations for Protection Against Radioisotopes and Radiation-Emitting Apparatus) in 1989 as its No. 44 Decree to ensure the health and safety of radiation workers and the public, to protect the environment, and to promote the application and development of technologies concerning radioisotopes and radiation-emitting devices. The Decree No. 44 provide that the State apply the system of licensing and registration for radiation work including production, sale and use. The license certificates ought to be handled by health departments of provinces. Any unit, before engaging in the production, use or sale of radioisotopes or apparatus equipped with radiation source or radiation-emitting apparatus, shall apply for a license from the health department of its own province.

Therefore, the health departments also have the duty of supervising and monitoring the security about radiation work. At the average level, each department of provincial level (including its underlings) reissues 400 license certificates, checks 2000 license certificates, and monitors 2000 X-ray diagnostic machines, 100 CT machines, 400 industrial X-ray or γ -ray machines, 20000 radiological spots and 6000 radiation workers. It is a busy work for each provincial health department to execute above tasks. As an example, for new or changed radiological work, the unit will be required applications of radiation protection separately for 4 periods of choosing location, designing and building, completion and decommissioning, which being a most important gist for licensing.

According to the report from "Annual Bulletin of Health Inspection 1997" of China, 59336 units engaged in radioisotopes and radiation-emitting apparatus were registered, including 8858 units in radioisotopes, 50446 units in radiation-emitting apparatus and 12 nuclear establishments,

52722 licenses were held by the units and 24 radiation accidents occurred. The health inspection report comprises of food hygiene, occupational health, school health, environmental health and radiation hygiene. The report as a long data table about radiation hygiene only occupying a small partition but an important partition.

2. Deficiency and shortage of the current licensing system

The license including its appendix provide details about radiation work such as the sources, the name and type and manufacture of apparatus, movement of the sources, and so on, but only being kept by the unit of production and use and sale. For some administrative reasons, the health departments are seldom aware of the importance of keeping these detail records. So it often makes work of monitoring and checking sources deficient and careless.

There are poor communications among every health department at this field of special and technical management. And the State Ministry of Health doesn't know the details of sources and apparatus and other subjects all of the units, especially the unit of producing sources or apparatus. The accurate information about radiation work is only the above Report (table) of every year. We can do preventive supervision good for legal units but can't do anything to prevent illegal and secret radiation work such as secret use and sale.

3. Coming improvement for licensing system

Radiation sources are provided with particular dangers. We hope we can prevent illegal and secret radiological actions. During the Information Times, we can make full use of the latest achievement of computer technology. We are going to establish a database for the licensing system of the whole country and to develop regular communications among health departments and the Ministry of Health, especially about sale and movement of sources.

The database will help keep detail records about radiation work, and help gather all information of the whole country so as to make the Ministry of Health grasp the whole conditions of radiation work of the whole country.

We plan to establish a large licensing system for radiation protection of whole country with most popular Multi-Media by ACCESS. And the use of Internet will be a very important supplement. It will much facilitate the data link and the information exchange among relevant departments. And these will improve our management quality and safety in radiation fields.