

The practice and exploration of radiation detection equipment performance testing work carried out by China Customs

In order to maintain good international and domestic order, prevent and combat illicit trafficking in nuclear and other radioactive materials, in recent years, China Customs has been equipped with a large number of radiation detection equipments throughout the country. And China Customs has been carried out radiation detection work at national water, land, air and passenger entry and exit ports. China Customs nuclear radiation detection work started in 2008, which originated from the security needs of the Beijing Olympic Games. The first batch of equipped radiation detection equipments came from various sources, including the unified distribution of independent procurement by China Customs, free donation by equipment manufacturers and donation by third-party organizations. China Customs used these equipments to carry out nuclear radiation detection work at border ports. After years of work, China Customs has summarized the Practice and exploration about using these equipments to carry out nuclear radiation detection work at border ports. China Customs has constantly summarized the achievements and shortcomings of nuclear radiation detection work. In order to facilitate the further and detailed development of nuclear radiation detection work, China Customs has put forward some individualized requirements for the performance of radiation detection equipment, which needs to be tested before purchasing new equipment. In 2016, China Customs invited a number of international and domestic agencies such as radiation detection equipment manufacturers, China National Atomic Energy Agency and the National Laboratory of the United States Department of Energy and other international or domestic institutions to participate in the performance testing work of equipment. This is the first time that the China Customs has systematically tested the performance of radiation detection equipment used in the Customs system.

This paper first introduces the individualized requirements of the nuclear radiation detection work of China Customs, and then introduces the practice and exploration of the performance testing work of the radiation detection equipment used by China Customs. Contents include the aspects of the preparation, operation specifications, technical indicators and performance evaluation of the equipment testing work, summarizes and experiences of the performance testing work of the radiation detection equipment. The innovation of this paper is that China Customs innovatively puts forward the individualized requirements for radiation detection equipment. For the first time, it systematically carries out the performance test of equipment, and records the specific situation of the test work. It is not only a summary of the experience for China Customs, but also more importantly, it can provide experience for other countries.

Keywords: China Customs, radiation detection equipment, performance testing

Gender

Male

State

China

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