**Ionization radiation applications and radiation safety procedures in Türkiye**

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**Abstract**

In this study, firstly, it is given all the application of the ionization sources and devices in Türkiye. The general information about radiation sources and devices and radiation application in Türkiye are given. Additionally, information is given regarding the authorization and control of radiation sources in our country. Until August 2018, Turkish Atomic Energy Authority (TAEK) was the regulatory body of Türkiye. After that time, the regulatory activities of TAEK have been transferred to the Nuclear Regulatory Authority (NDK). Thus, NDK has undertaken the regulatory activities concerning facilities (including nuclear power plants), devices, substances and activities related to nuclear energy and ionizing radiation as the regulatory authority of Türkiye. According to the NDK national radiation sources registration system, there are various radiation sources throughout our country, including radioactive sources and devices that produce or emit radiation (X-ray devices, closed and open radioactive sources and devices containing closed radioactive sources) [1]. Ionizing radiation has many beneficial applications in medicine, industry, energy production, agriculture, and research when it is used safely. But the use of ionizing radiation sources can be harmful effect to the health of human, and environment if it not properly used or not controlled [2]. In this scope, secondly, this study contains information concerning current the radiation safety procedures in scope of the regulatory body in Türkiye.

***Keywords: Radiation, X-ray, Safety, Radioactivity, IAEA***

***References***

1. Radiation Sources in Türkiye 2022, Nuclear Regulatory Authority (NDK), Ankara (2022).
2. Zeyrek, C. T., Akbıyık, H. (2016). Development of Human Resources Through Awareness Education and Training Activities on Occupational Radiation Protection for Industrial Radiography in Turkey, Journal of Materials Education 38(5-6), 191-201.