

Interface between nuclear safety and security in radioisotope production facility

ABSTRACT

Radioisotope production facility is completed and commissioned in 2013 to produce some radioisotopes for medical and industrial applications. Nuclear safety and security is standardized and have common purposes for protection of people, society and the environment. In both cases, such protection is achieved by preventing a large release of radioactive material as well as nuclear material protection. Many of the principles to ensure protection are common, although their implementation may differ. Moreover, many elements or actions serve to enhance both safety and security simultaneously. For example, the containment structure at a radioisotope production facility serves to prevent a significant release of radioactive material to the environment in the event of an accident, while simultaneously providing a robust structure that protects the facility from a terrorist assault. Similarly, controls to limit access to vital areas not only serve a safety function by preventing or limiting exposures of workers and controlling access for maintenance to qualified personnel, but also serve a security purpose by inhibiting unauthorized access by intruders. The purpose of this manuscript is to provide a better implementation and understanding of the interfaces between safety and security procedures in radioisotope production facility. It discusses the means to achieve both objectives interchangeably in an optimal procedure. It also adopts the required actions with the goal of maximizing the protection of the public, property, society, and the environment through an improved and strengthened interfaces between safety and security.

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