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Real Time Tracking of Mobile Radioactive Sources

Adelia Sahyun^{1*}, Clarice Acosta Perez^{2*}

¹ *Instituto de Pesquisas Energéticas e Nucleares, Brazil*

² *Centro Tecnológico da Marinha em São Paulo - CTMSP, Brazil*

**asahyun@ipen.br, clarice.acosta@marinha.mil.br*

It is vital that mobile radioactive sources remain under safe and secure control, at all times and the operator is notified in real time of their unauthorised removal from a fixed location, store or vehicle. This paper describes a system that constantly monitors mobile radioactive sources and provides a means to detect their location should unauthorised removal occur. Thousands of radiographic exposure devices are transported in the public domain every day and there are examples where the vehicle carrying a device has been stolen, not for the device itself but for the vehicle, which often leads to the device being discarded. Abandoning the device can lead to high risks of exposure for those who have secondary contact for example children or those attracted by its perceived intrinsic value. A lack of knowledge of the dangers of radiation has led some people in the past attempting and sometimes succeeding to open a device and remove the source. With other factors involved such as location, country and the intentions of those in possession of the device, it is therefore important that the device is located quickly, enabling recovery actions to begin as soon as possible. In addition, this paper encourages that such monitoring systems are more widely promoted in all countries and that an international code of practice is developed to assist when sources are transported internationally.