



Contribution ID: 66

Type: **Poster**

## **Threat of Radioactive Materials Out of Regulatory Control in Egypt; Orphan Sources**

*Tuesday, 8 July 2014 13:00 (1 hour)*

An orphan source is a radioactive source that poses sufficient radiological hazard to warrant regulatory control, but which is not under regulatory control because it has never been so, or because it has been abandoned, lost, misplaced, stolen or otherwise transferred without proper authorization. A vulnerable source is one, but its level of control is weak. It can be regarded as a source that could easily become orphaned. In recent years, orphan sources have caused multiple fatalities or serious injuries when unperceived individuals have found them. Because of their small size, potency, availability, and “nuclear” nature, there is concern that a terrorist could use a radiation source to create a “radiological weapon,” or “dirty bomb.” The ruthlessness of the Sept. 11 attacks makes it clear that the risks of a nuclear terrorist act are higher than previously thought. Several accidents have occurred involving abandoned radioactive facilities, inappropriate disposed sources or sources use outside regulatory control. Lack of control is due to different reasons, but in all cases immediately before the accident no one was responsible of its safety and security control.

In the spring of 2000, three people died in Egypt because of a sealed source that came into the possession of a farmer. As this incident illustrates there is possibility of death and injury to the public due to sealed sources. Mismanaged sealed sources can have a devastating effect on health and environment. Maliciously used sealed sources pose an even greater risk. Therefore a program is needed in Egypt, which leads to the safe and secure management and use of sealed sources.

Integrated Management Program for radioactive sealed sources (IMPRSS) Project started in 2003 and it is a co-operative development between the Egyptian Atomic Energy Authority (EAEA), Egyptian Ministry of Health (MOH), Sandia National Laboratories (SNL), New Mexico Tech University (NMT), and Agriculture Cooperative Development International (ACDI/VOCA). SNL coordinated the work scope between the participant organizations.

The EAEA, MOH, SNL, ACDI/VOCA and NMT are working to develop an integrated program for managing RS in Egypt. The IMPRSS Project will enable Egypt to safely manage all aspects of RS, from an education awareness program to recovery, storage, and ultimate disposal of unwanted sources.

### **Country and/or Institution**

Egyptian Nuclear and Radiological Regulatory Authority

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**Session Classification:** Poster Session I