Improving the Security of Radioactive Sources in Industrial Radiography and Well Logging

Introduction
The potential for malicious use of radioactive material continues to exist and requires that improving protection of radioactive sources and their associated facilities remains a priority [1]. The small size and portability of industrial radiography and well logging radioactive sources make them attractive to theft or misuse when not adequately secured. Identifying practical improvements to security in these practices was the objective of two South East Asia regional workshops, held in Australia in September 2010 [2] and in Malaysia in December 2012 [3]. The December 2012 workshop, which is the subject of this poster, was attended by representatives of Government agencies, national nuclear operating organisations, regulatory authorities, non-destructive testing professional associations, and industrial radiography and well logging companies from nine South East Asian countries of Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. The nuclear security programs of Australia, Canada, USA, New Zealand, the IAEA and the World Institute for Nuclear Security were also represented.

Outputs from the workshop are documented [2], [3] and cover:
1) Suggested security measures in accord with international best practice.
2) Guidance on the contents of a security plan for industrial radiography.

It is recognised that there may be several ways to achieve the security objectives for each security function whilst accounting for particular national and workplace circumstances.

Issues Affecting Security
a) Agreement on interpreting and satisfying the Security Level B goal to minimize the likelihood of unauthorized removal.
b) Variable industrial radiography operational environment.
c) Frequent transport of industrial radiography sources.
d) Aggregation of sources in storage or transport.
e) Companies sharing access to storage facilities at field sites.
f) Cross-border movements and off-shore operations.
g) Operator implementation of security measures.

Working Groups’ Findings for consideration and action by regulators, operators, NDT associations, and the international community include:
• the need to conduct cooperative training and awareness activities for operators and regulators, as well as law enforcement, customs, client companies, government, and others; and
• the promulgation of guidance for, and/or an example of, a security plan for Category 2 industrial radiography sources, coupled with conducting Security Plan Development workshops for operators, with international support if required.

Workshop Conduct
Small working groups discussed common issues and made suggestions on the roles, responsibilities and capabilities affecting security; on enhancing understanding and cooperation across all stakeholders; and on improving implementation of security. The relevant IAEA Nuclear Security Series publications formed the basis for the suggested security measures to be applied throughout the source life-cycle [4]-[6]. The working groups also critiqued the first workshop’s recommendations, taking into consideration actual operational safety and security practices, and recognising national regulatory and individual company differences to the extent practicable and consistent with overall security goals [2].

References

Regional workshop participants and cooperating partners