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Capacity Building in Nuclear Forensics in South East Asia

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Illicit trafficking of nuclear and other radioactive materials is an international concern. Whenever illicit nuclear or other radioactive material is detected, an appropriate response process needs to be initiated. An important element of the response process is the nuclear forensic investigation of the intercepted material. Obviously, we need to define what composes an “appropriate” response, what authorities are in charge and what technical capabilities are required.

Sustainable success in the fight against illicit nuclear trafficking can only be achieved if the origin of the material can be identified and, in consequence, if the protection of the material at the place of theft or diversion will be improved. Information on the nature and on the history of nuclear material can be obtained through nuclear forensic analysis. Whenever nuclear material is intercepted from illicit trafficking, the investigating authorities request rapid and reliable information on the seized material. To this end, a number of measures have to be implemented in order to ensure that the appropriate legal and administrative instruments are in place, that the technical infrastructure supporting the investigations is available and that the scientific skills and instrumentation are provided.

In a joint undertaking, the European Commission’s Joint Research Centre (JRC) and the US National Nuclear Security Administration (NNSA) implemented a project in South East Asia for raising awareness on the phenomenon of illicit nuclear trafficking, for sharing experience in responding to nuclear security incidents and for paving the way for establishing nuclear forensics capabilities in that region.

The paper describes the strategy developed for implementing the project in partnership between JRC and NNSA. Workshops and seminars were held in cooperation with and hosted by partners from the region; the IAEA was associated to these events and the ASEAN Regional Forum provided the regional platform. A series of three workshops offered nuclear forensics awareness, introduction to concepts of a national response plan, fundamentals of nuclear forensic investigations, and opportunities for regional and international cooperation. Seminars included presentations, table-top exercises and discussions, addressing regulatory authorities, law enforcement and nuclear measurement experts.

Two hands-on training sessions were provided at the European Nuclear Security Training Centre (EUSEC-TRA). Firstly, a one week training on core capabilities in nuclear forensics was provided to some 15 technical experts from various ASEAN countries. The training areas ranged from basic radiation measurement techniques to scenario based exercises for resolving typical nuclear security incidents. A second training session (again one week duration) addressed the specific issue of radiological crime scene management. Two experts per country, one from law enforcement and a nuclear measurement expert, participated in this session. Training participants will share the skills acquired during these sessions with other experts in their respective countries and contribute to establish nuclear forensics capabilities in their respective countries.

JRC –ITU and NNSA will continue to work with ASEAN and ARF countries supporting the development and implementation of nuclear forensic capabilities through regional experts meetings and technical trainings. The on-going cooperative efforts on capacity building in nuclear forensics are significantly contributing to improved preparedness and enhanced deterrence.

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