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IMPLEMENTATION OF THE SELF-ASSESSMENT TOOLS FOR BUILD UP A NATIONAL NUCLEAR FORENSICS CAPABILITY

1. INTRODUCTION Thailand was established nuclear forensics in 2013. The project began with the Thai government budget and European Union Chemical, Biological, Radiological and Nuclear (CBRN) Risk Mitigation Centres of Excellence (CoE) supported the funding of the Network of Excellence for Nuclear Forensics in the South East Asia Region (Project 30) in 2013–14. The objective was to strengthen regional public security by upgrading nuclear forensics capabilities, technologies, and methodologies for assessing nuclear and other radioactive materials. In order to build up the national capabilities, the Office of Atoms for Peace (OAP) was designated to identify the strength and weaknesses of current facilities. The Nuclear Forensics Self-Assessment Tool (SAT) developed by the Global Initiative to Combat Nuclear Terrorism (GICNT) was utilized to identify existing capabilities. Thailand has created a national roadmap for the development of nuclear forensic science in the country, focused on increasing the capabilities and technical expertise of a national nuclear forensics laboratory.
2. UTILIZATIONS OF THE SELF-ASSESSMENT TOOLS The OAP translated SAT into the Thai language, including selected relevant stakeholders. Three sets of Google Forms were created to meet the requirement for assessment of the competent authorities. The stakeholders were the frontline officers, forensics organizations, regulatory bodies, academic lecturers, and analytical laboratories scientists. The SAT was distributed to the agency's contact point and directly to the organization members. The one hundred persons of the competent authorities acquired the tool, and seventy-two of them responded to the form due to the time constraint for allocating the SAT. Subsequently, OAP identified the strength and deficiencies according to the feedback SAT. The networks development, SOP development, ISO/IEC 17025 accreditation needed to be prioritized to overcome the gaps. These issues were included in sustainable nuclear forensics activities to be the five-year plan of the national nuclear security.
3. IMPLEMENTATION OF THE FEEDBACK FROM THE SELF-ASSESSMENT TOOLS The network communication and SOP were developed by discussing with the competent authority, also plan to include in the Nuclear Security Regime by 2022. In addition, OAP has developed the Nuclear Forensics Laboratory to acquire the ISO/IEC 17025. The first scope for supporting the Nuclear Energy for Peace Act was the qualification of uranium and thorium in a geological sample using gamma spectrometry, certified in June 2021.
4. CONCLUSIONS The SAT was the main subject for assisting the country to identify its existing capabilities and disclose deficiencies. The tool incorporates the whole process, which is not only forensic analysis but also crime scene management. However, some specific areas would be rather complicated for some competent authorities to respond to the questions. Because Thailand does not have inclusive nuclear activities, the SAT was necessary to adapt to meet the requirement of the stakeholders to understand. The OAP had selected only the related nuclear activity and provided more elaborate details so that almost competent authorities would identify strengths and deficiencies effectively. A few topics were specific to reveal the actual circumstances, especially the competent authorities are not in a position of the practitioner-level. Some questions need to respond from the policy level since they can establish a long-term plan for implementing nuclear forensics efficiency. Consequently, the communication between the pilot organization and the stakeholders is a significant issue to fruitful the SAT as an element for national planning to achieve the goals for capacity building of nuclear forensics.

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