

NUCLEAR SAFETY AND SECURITY

The risk that nuclear or other radioactive material could be used in terrorist acts is regarded as a serious threat to international peace and security. Material out of regulatory control could lead to criminal or terrorist acts including: (a) criminals or terrorists acquiring and using nuclear material to build an improvised nuclear device (IND); or (b) deliberate dispersal of radioactivity, by the construction of a radiological dispersal device (RDD) or radiation exposure device (RED); or c) through an act of sabotage at a facility that uses or stores nuclear and other radioactive material; or during transport of nuclear and other radioactive materials.

Nuclear Safety is defined as "The achievement of proper operating conditions, prevention of accidents or mitigation of accident consequences, resulting in protection of workers, the public and the environment from undue radiation hazards". While Nuclear security is defined as "The prevention and detection of and response to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities.

Tanzania Atomic Energy Commission is implementing a framework, and best practices of nuclear security detection architecture at national level. This also aims to provide to the relevant organs awareness of the core concepts of nuclear security detection architecture and its role in the context of security measures for nuclear and other radioactive material out of regulatory control. The focus is to implement nuclear security detection concepts and contribute to the comprehensive assessment of nuclear security detection architecture at the State level.

The possibility that nuclear or other radioactive material could be used for malicious purposes is real. This calls for a collective commitment to the control of and accountancy for material, as well as to adequate levels of protection in order to prevent criminal or unauthorized access to the material or associated facilities. Sharing



of knowledge and experience, coordination among States and collaboration with other international organizations, initiatives, and industries support an effective international nuclear security framework. We cannot afford to wait for an act of nuclear terrorism before working together to collectively improve our nuclear security culture, share our best practices, and raise our standards for nuclear security.

Well over a hundred incidents of thefts and other unauthorised activities involving nuclear and radioactive material are reported to the IAEA every year. This means the material is outside regulatory control and potentially available for malicious acts. Some material goes missing and is never found. Most of the incidents reported to us are fairly minor, but some are more serious. However, effective counter-measures are possible if *all* countries take the threat seriously. Even States without nuclear or other radioactive material should not think that this issue does not affect them. Terrorists and criminals will try to exploit any vulnerability in the global security system. Any country, in any part of the world, could find itself used as a transit point. And any country could become the target of an attack.

Responsibility for ensuring nuclear security lies with national governments, but international cooperation is vital. Cooperation has improved in recent years and the central role of the IAEA in helping countries to strengthen nuclear security has been widely recognised. Much has been achieved in the past decade. Many countries have taken effective measures to prevent theft, sabotage, unauthorized access, illegal transfer, or other malicious acts involving nuclear or other radioactive material. Security has been improved at many facilities containing such material. Taking action now to help prevent an incident occurring, and to limit the consequences if an incident were to happen, is clearly a necessary and a very worthwhile investment.

The Tanzania national detection strategy to detect the threats identified in the threat and risk assessment will be implemented through the establishment of a national detection architecture that incorporates sustainable detection elements. To implement the architecture, a priority activity will be increased awareness of the threat among the relevant agencies and the Front Line Officers (FLOs) that are likely to be the first point of encounter with the threat. The development of operation concepts and conduct, procedures, and communication protocols will need to be developed. Once developed, these concepts will be the basis for training of FLOs and senior officials. Detection by information will involve increased awareness of law enforcement, intelligence, military and border/customs agencies. Training programs to increase awareness and how to understand potential indicators of radioactive materials or intended illicit trafficking will be needed. Detection by instrument will also be an important component of the national detection architecture. Provision of equipment, training on its use, and expertise on maintenance and repair will be required.

Building a nuclear security framework, which is suitable for today and sustainable for tomorrow, is a widely held



priority of the international community. Terrorists will find and exploit the weakest link in any security system. By the end of 2012, the Convention on Physical Protection of Nuclear Material has become a widely accepted international instrument with 148 States Parties. The IAEA has provided over 30 different nuclear security training courses, with more than 80 events conducted annually. More than 500 nuclear security training workshops and training courses have been delivered to over 13 800 people from more than 120 States. Malicious acts with dispersal of radioactivity may occur if radioactive materials are inadequately controlled and protected. Effective border control is being done by equipping front line officers and building their expertise in radiation detection. Increased interest in and commitment to nuclear security is reflected in the work of other international organizations and in the establishment by States of new nuclear security initiatives. IAEA is promoting common principles and goals, as well as collectively carrying out high priority activities, requires close coordination and cooperation with other International Organizations and Non-Governmental Organizations. States must put nuclear security measures in place to ensure that nuclear or radioactive materials do not disrupt events and pose a threat.