GHANA'S INTEGRATED NUCLEAR SECURITY SUPPORT PLAN

At the Korle Bu Teaching Hospital outside Accra, Pearl Lovelyn Lawson checks the records of the next patient to undergo radiotherapy and adjusts the dose settings of the teletherapy machine. It is business as usual at the facility that treats over fifty patients each day. But Lawson's routine now includes additional procedures to ensure that the highly radioactive cobalt-60 source located inside the machine remains secure.

Nuclear security devices and systems such as double locks, motion sensors, and cameras that transmit images to a central alarm system have been installed to ensure that the source cannot be stolen, the facility sabotaged, or unauthorized access gained. At Korle Bu physical protection measures were upgraded as part of Ghana's Integrated Nuclear Security Support Plan (INSSP). Preventing, detecting and responding to criminal acts like the theft or illegal transfer of a radioactive source, is an international priority that could be addressed through an INSSP. As one of its key nuclear security services, the IAEA assists Member States in drafting such plans. An INSSP is developed jointly with the Member State, using a holistic approach to nuclear security capacity building. It reinforces the primary objective of a State's nuclear security regime to protect people, society, and the environment from the harmful consequences of a nuclear security event. Addressing five components — the legal and regulatory framework, prevention, detection, and sustainability — the jointly developed plan identifies the needs, responsible entities and organizations within the State, as well as the timeframe for the implementation of agreed nuclear security related activities.

Ghana's INSSP, tailored to its specific needs, is based on findings and recommendations from advisory service missions carried out in Ghana, including an International Nuclear Security Advisory Service mission and an International Physical Protection Advisory Service mission. Ghana's INSSP was recently reviewed to identify additional areas for improvement. Based on IAEA nuclear security guidance, it is designed to identify those actions required to ensure that Ghana's national nuclear security regime is effective and can be implemented over a period of time to ensure sustainability. The main objectives of an INSSP are to identify and consolidate the nuclear security needs of an individual State into an integrated document. But it is more than a document; it is nuclear security in action. Joseph Gdadago, Manager of the National Nuclear Research Institute at the Ghana Atomic Energy Commission (GAEC), explains, "Nuclear security is very important. This reactor uses highly enriched uranium. We put all necessary security measures in place to protect this and prevent any sabotage or theft of any kind."

Ghanaian officials and IAEA experts jointly developed an Integrated Nuclear Security Support Plan to ensure that Ghana's national nuclear security regime is effective and sustainable.
(Photo: D. Calma/IAEA)

The research reactor plays a very useful role in economic development and environmental issues in these areas. Ghana is the second leading producer of cocoa in the world and has over 250 gold mines. Scientists at GAEC profile cocoa beans to ensure that they meet international trading standards and assist in mineral exploration. Students, including those from neighbouring African States, use the reactor for research projects. Such training is central to capacity building in a State. It is furthered by Ghana's Nuclear Security Support Centre (NSSC), which was initiated as part of its INSSP. The IAEA conducts courses at the NSSC, which also coordinates emergency response, maintains equipment, and provides technical support for detecting and responding to nuclear security events.

As Gdadago explains, "We don't leave any stone unturned as far as security is concerned." The threat that nuclear or other radioactive material could be used with malicious intent is an ongoing concern for States. Ghana's INSSP demonstrates a strong commitment to improve nuclear security, so that patients can continue to receive radiotherapy treatments at the Korle Bu Teaching Hospital and students on the GAEC campus can continue to be trained. The IAEA stands ready to support the development of INSSPs by those States that choose to develop these plans in future in an effort to strengthen the global response to a global threat.

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