

## **REGULATORY INSPECTIONS AT MEDICAL FACILITIES**

As stipulated in Section 9 (1)(d) of the Atomic Energy Act No. 24 of 2008, one of the functions of the Atomic Energy Council is to conduct inspections to assess radiation safety, security conditions and compliance with the Act, the Atomic Energy Regulations, 2012 and the conditions specified in authorizations (licenses and permits issued to facilities).

In Uganda, medical facilities including hospitals, clinics and dental units have the largest number of radiation generating equipment and practices using ionizing radiation sources. The equipment and practices that we inspect in medical facilities include; fixed, mobile and dental X-rays, Fluoroscopy, C-Arms, CT scanners, Nuclear medicine and radiotherapy.

The equipment are used mainly for diagnosis and treatment of diseases. However, if the practices are not properly used and regulated, they may cause a range of effects including short term ones like skin burns or long term ones like cancers or even death from radiation sickness.

The inspections done by Atomic Energy Council may be announced or unannounced so as to verify compliance of a facility during normal operations. They can also be categorized as routine (carried out once or twice a year), follow-up (to verify if previous requirements were implemented), pre-authorization and special inspections.

Under section 21 of the Atomic Energy Act No. 24 of 2008 and regulation 8 of the Atomic Energy Regulations, 2012, the Radiation Protection Officers or any other authorized officers have the right to enter a facility and carry out an inspection in order to obtain information about the status of radiation safety and verify compliance with regulatory requirements. Section 63 (3) (c) also stipulates that any person who, knowingly, willfully and without reasonable excuse in any other manner obstructs a Radiation Protection Officer in the course of performing his or her functions under the Act, commits an offence and is liable, on conviction, to imprisonment not exceeding four years without the option of a fine.

### **Objectives of an inspection in a medical facility**

The main objective of an inspection is to assess radiation safety and security conditions of the facility.

More specifically, the objectives are;

1. To determine the level of implementation of the requirements and recommendations made in a previous inspection (in case of a follow up inspection)
2. To determine the level of compliance with requirements of Atomic Energy Regulations, 2012 related to – Administrative and Management; Radiation Protection performance; Occupational exposure protection of the facility workers; Medical exposure protection and Public exposure protection, safety and security as well as emergency intervention
3. To verify the performance parameters of the radiation generators
4. To carry out radiation survey measurements.

Other information that is usually obtained during an inspection is the inventory of sources and radiation workers and a sketch of the facility layout showing the location of the radiation generator and the surrounding areas.

### **Methodology for inspecting at medical facilities**

The inspection findings are gathered through:

1. Interviews with the facility staff;
2. Observations during normal operations;
3. Review of representative records related to the practice;
4. Carrying out radiation survey measurements within and around the facility to determine how much radiation escapes out of the room
5. Performing quality control tests on the equipment.



*An inspector (left) interviewing a radiographer during an inspection on a mobile X-ray machine.*

## **Procedures prior, during and after an inspection**

When the inspectors visit a facility, there are procedures to be followed to facilitate the inspection;

1. Identify the need for the inspection at a facility
2. Review the facility file
3. Hold pre-inspection meeting at the office
4. Prepare inspection documents
5. Carry out an entrance briefing with the Administrators
6. Tour relevant areas of the facility
7. Visit the equipment room to carry out actual inspection basing on a checklist
8. Review the representative records at the facility
9. Review of the outcomes of the results from the inspection
10. Carry out an exit briefing and discussion with a representative of the department staff and an administrator.
11. Prepare an inspection report
12. Carry out a follow –up inspection on the non-compliances

## **Outcomes of an inspection**

After carrying out an inspection, the inspectors come out with a number of requirements and recommendations basing on the observations, results of tests and measurements from the inspection.

Some of the requirements need immediate action and these are brought to the attention of the administrator and the department staff on a duplicate form which is signed by the representative of the legal person (administrator) and one of the inspectors.

The other findings, requirements and recommendations are included in a report that is sent to the facility after its compilation.

Whenever there are serious violations of requirements, especially related to safety, a facility may be required to temporarily halt operations until the violations are addressed and verified by an inspector. The temporal halt may be ensured through a number of enforcement actions such as making the machine inoperable. For non-serious violations that do not directly compromise the health of workers, patients and members of the public, the facility is given six months to address them and inform Council for verification.

## **Conclusion**

Facility administrators are required to accord the inspectors due assistance in the process of inspecting. The cooperation helps identify the strengths and weakness of the facility as related to radiation protection, safety and security. The gaps that the inspectors identify and the recommendations that they make help to create a safer environment for the workers, patients and members of the public. They also help enhance the security of the sources.