



MINISTRY OF ENERGY AND MINERAL DEVELOPMENT

NUCLEAR ENERGY DEPARTMENT

Strategies, achievements and ongoing activities

1. STRATEGIES, ACHIEVEMENTS AND ONGOING ACTIVITIES

1.1 Strengthen Policy, Legal and Institutional Framework

1.1.1 Achievements

- i) A Regulatory Impact Assessment (RIA) on Atomic Energy was completed in June 2021. The assessment will guide the amendment of the Atomic Energy Act, 2008.
- ii) A Country Programme Framework (CPF), a mutual agreement on technical cooperation programme on peaceful use of nuclear energy was signed between Government of Uganda and International Atomic Energy Agency (IAEA) on 19th September 2019 in Vienna, Austria. The CPF, 2019 – 2023 focus on building national capacity for introduction of nuclear power, uranium and geothermal resources development, diagnosis of diseases, cancer management, water resources management, pollution control, improving agricultural production and productivity, pest and diseases control, and food and feed safety.
- iii) MOU between China National Nuclear Cooperation (CNNC) and the Ministry of Energy was signed in May 2018. The MoU established a framework for cooperation on development and operation of nuclear power plants and research reactor; human resource development; nuclear safety, security, safeguards and radiation protection; atomic and radiation technology applications in industry, medicine and agriculture.
- iv) Memorandum of Understanding (MoU) between the Ministry of Energy and Mineral Development and the Russian State Atomic Energy Corporation (ROSATOM) on cooperation in the use of atomic energy for peaceful purposes was signed in June, 2017 and an Inter-Governmental Agreement (IGA) between Government of Uganda and Government of the Russian Federation on peaceful use of nuclear energy was signed on 17th September 2019 in Vienna, Austria. The agreement establishes a strong cooperative framework focusing on development of nuclear in Uganda; production and application of radioisotopes for industrial, health care and agricultural use;

support towards strengthening nuclear and radiation safety and security as well as education and training.

- v) A Nuclear Communication Strategy for Uganda 2021 - 2025 was drafted and key stakeholders such as IAEA, Government MDAs were consulted. The Nuclear Communication Strategy will provide framework for nuclear communication and guide development of nuclear messages.
- vi) As part of human resource development, five (05) graduate trainees in the Nuclear Energy Department completed specialized training in nuclear fields from Universities in United Kingdom and The Republic of Korea (South Korea).

1.1.2 Ongoing Activities

- i) Consultations on draft report on Regulatory Impact Assessment (RIA) on Atomic Energy and drafting of Atomic Energy Amendment Bill.
- ii) Finalization of the Nuclear Communication Strategy for Uganda 2021 -2025 and development and dissemination of awareness materials.

1.2 Develop Nuclear Power Infrastructure

1.2.1 Achievements

- i) Pre-feasibility studies for construction of 2000 MWe nuclear power plant were completed. Potential sites for nuclear power development were identified in Buyende, Nakasongola, Kassanda, Kiruhura and Lamwo Districts.
- ii) Best evaluated bidder to provide consultancy services for the Strategic Environmental Assessment (SEA) for nuclear power development was identified by June 2021.
- iii) Self-evaluation in preparation for IAEA Integrated Nuclear Infrastructure Review (INIR) was completed and a pre-INIR meeting conducted from 1st to 3rd June 2021.

- iv) Preparation of IAEA supported technical cooperation project *UG2020002: Supporting Nuclear Power Infrastructure Development in Uganda (Phase II)* was completed.

1.2.2 Ongoing Activities

- i) Completion of a nuclear power roadmap for Uganda to guide the development of nuclear power infrastructure and preparation of a project concept for the First Nuclear Power Plant Project.
- ii) Evaluation of potential sites in Buyende, Nakasongola, Kassanda, Kiruhura and Lamwo Districts to identify the candidate site for nuclear power development.
- iii) Finalization of self-evaluation in preparation for IAEA Integrated Nuclear Infrastructure Review (INIR) planned to take place from 27th November - 6th December 2021 in Kampala.
- iv) Negotiation of contract with the consultant for Strategic Environmental Assessment (SEA) for nuclear power development.

1.3 Manage Nuclear Fuel and Radioactive Waste

1.3.1 Achievements

- i) Preparation of IAEA supported technical cooperation project *UGA2003: Supporting Uranium Exploration and Evaluation* was completed. The project will support national effort for uranium exploration and evaluation through provision of specialized equipment, expert missions and staff training.
- ii) The status of radioactive waste management in Uganda was assessed and a radioactive waste management strategy for Uganda was drafted.
- iii) Assessment of the status of Cobalt-60 teletherapy machine at St. Mary's Hospital, Lacor was completed in preparation for decommissioning of the facility.

1.3.2 Ongoing Activities

- i) Monitoring uranium exploration and evaluation activities under the IAEA technical cooperation programme.
- ii) Consultation of stakeholders on the draft Radioactive Waste Management Strategy for Uganda.
- iii) Supporting St. Mary's Hospital, Lacor to develop a decommissioning plan for Cobalt-60 teletherapy machine.

1.4 Develop Nuclear Science and Applications in Health, Industry and Research

1.4.1 Achievements

- i) Installation of a dual head SPECT gamma camera for Mulago National Specialized Hospital was completed. Commissioning of the equipment is pending completion of the refurbishment of the hospital.
- ii) A new Cobalt-60 teletherapy machine was commissioned on 19th January 2018 in the refurbished radiotherapy facility at Uganda Cancer Institute thus restoring radiotherapy services in Uganda.
- iii) A second Cobalt-60 teletherapy machine (Bharbaton II) for cancer management was commissioned on 13th February 2020 at Uganda Cancer Institute.
- iv) Procurement of consultancy services to conduct feasibility study for establishment of a gamma irradiation facility to improve the quality of agro-produce was supported.
- v) Equipped of Eleven (11) IAEA supported Regional Animal Disease Diagnostic Centres (RADDCs) was supervised.
- vi) Specialized equipment (HPLC, CHARM II and LCMSMS) for monitoring food safety in the country were acquired and installed at Uganda National Bureau of Standards (UNBS).
- vii) Consultations of Ministry of Science Technology and Innovation, Makerere University, Soroti University, Kyambogo University and Busitema University

and IAEA on the construction of a Centre for Nuclear Science and Technology were conducted. The Centre will support nuclear education, training, research and development. It will also be used for production of radioisotopes for medical and industrial applications.

1.4.2 Ongoing Activities

- i) Supervising the installation Linear Accelerator (LINAC) for cancer management at Uganda Cancer Institute.
- ii) Coordinating the shipment of nuclear derived Covid-19 rapid detection kits donated by IAEA to Ministry of Health.
- iii) Supporting the development of a gamma irradiation facility to improve the quality of agro-produce by Uganda Development Corporation (UDC).
- iv) Supporting the equipping of Four (04) Regional Animal Disease Diagnostic Centers (RADDs).
- v) Preparing of a project concept on Establishment of a Centre for Nuclear Science and Technology.