



**MINERAL RESOURCES AND ENERGY  
REPUBLIC OF SOUTH AFRICA**

**SPEECH BY THE DEPUTY DIRECTOR GENERAL: NUCLEAR ENERGY  
REGULATION AND MANAGEMENT**

**DEPARTMENT OF MINERAL RESOURCES AND ENERGY**

**MR ZIZAMELE MBAMBO**

**ON THE OCCASION OF AFRICAN REGIONAL COOPERATIVE  
AGREEMENT FOR RESEARCH, DEVELOPMENT AND TRAINING  
RELATED TO NUCLEAR SCIENCE AND TECHNOLOGY (AFRA NEST)  
GENERAL ASSEMBLY AND VICE CHANCELLORS MEETINGS, 14  
AUGUST 2023**

**14 AUGUST 2023**

## **THE CAPITAL ON THE PARK, SANDTON, JOHANNESBURG**

Programme Director, Mr Nkosinathi Tom

Director for Division of Africa, IAEA Technical Cooperation Africa Department,

Professor Shaukat Abdulrazak

Head of the Host organization and Vice Chancellor of North West University,

Professor Bismark Tyobeka

NLO & AFRA National Coordinator, Ms Lerato Makgae

Chair of AFRA Committee for Human Resource Development, Prof James Kahindi

IAEA Section Head, Technical Cooperation Division of Africa, Dr Mickel Edwerd

IAEA Programme Management Officer, Dr Felix OMONYA

Officials from North West University

Officials from the Department of Mineral Resources and Energy and DIRCO

Distinguished AFRA NEST Coordinators and Vice Chancellors,

Welcome to South Africa,

It is with a warm and great pleasure to welcome you all this morning, to these strategic meetings within the Framework of African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) in partnership with the International Atomic Energy Agency (IAEA), the Department of Mineral Resources and Energy (DMRE) and our Host Organization North West University.

Programme Director,

We all appreciate the importance of AFRA which is an intergovernmental Agreement established by African Member States to strengthen and enlarge the contribution of nuclear science and technology to socioeconomic development on the African continent.

Today we are meeting here in South Africa to discuss a critical matter related to human resource requirements for the sustainability of our nuclear programmes, this covers both power and non-power applications.

The African Region is rich with resources, we talk about beneficiation of our local resources and what would it take to reach that stage of self-sufficiency. Skills development especially for women and youth is one of the key requirements. Africa's large youth population presents an enormous opportunity for its development in the peaceful uses of Nuclear Science and Technology Applications. Work is in progress on the nuclear expansion programme in our country comprising of the preparation for the issuance of RFP for 2500MW nuclear energy by the end of this financial year, the Koeberg Long Term Operation, Multi-Purpose Reactor Project for the replacement of the SAFARI Research reactor, the Central Interim Storage Facility Project for radioactive waste management. These programmes will need highly competent and qualified man power. The programmes discussed this week will be an important source to ensure sustainable nuclear professionals for the industry.

I have been informed that essentially, the main function of the AFRA-NEST is to foster sustainable human resource development and nuclear knowledge management to satisfy the needs of African countries in the priority areas of non-power and power applications of nuclear energy.

AFRA-NEST is further intended to integrate all available higher education capabilities in Africa as well as the industries in nuclear professional associations in synergy with existing IAEA and other regional/international nuclear educational institutions. AFRA-NEST also focuses on encouraging senior nuclear professionals to share their experience and knowledge with the young generation.

Most of the Member States here if not all are at different levels of the IAEA Milestone Approach. Human Resource Management in the nuclear industry needs to be of a particularly high standard, both in terms of competence and performance.

Developing specialists needed in this field requires considerable effort and time. Monitoring and continually improving human performance has become one of the key challenges in the management of human resources for nuclear facilities.

The Milestone approach guide us that to ensure a sustainable workforce, it is important for a country to expand its own education and training capabilities and

to develop a strategy to retain skilled human resources. I encourage you to work together in sharing your capabilities.

For many Member States in the Africa region, their application of nuclear science and technologies (NST) is limited by a shortage of qualified professionals, particularly female professionals. This shortage is caused in part by the comparative scarcity of nuclear education and training opportunities on the continent—in lieu of continuing their studies at a domestic university, trainees are often forced to rely on foreign academic institutions and on training provided in other regions.

South Africa would like to commend the IAEA for launching a Regional Meeting of Vice Chancellors of African Universities initiative to Address Human Resource Development in Africa, within the framework of the AFRA Agreement. More academic programmes in nuclear science and technology must be established, and coherent strategies to curb 'brain drain' of African experts must be developed, if the full potential of nuclear technology for development is to be maximised in Africa.

The Department would like to encourage you to continue developing practical measures and explore potential collaboration to address regional human resource capacity gaps in this field.

We all can agree that building national capabilities will require significant education and training. The importance of Human Resource development is also recognized within the AFRA strategy, a dedicated Governance structure called AFRA High Level Steering Committee on Human Resource Development and Nuclear Knowledge Management has been established. This targeted approach will ensure that we respond adequately to the present and future regional needs in Human Resource Development and Nuclear Knowledge Management.

The availability of qualified workforce is important for the continued safety and secure of utilization of all nuclear technologies for peaceful purposes.

Some of the issues we would like to see being reflected upon is activities that would strengthen the existing systems within the Universities. To launch a quality programme that would address issues of concern for AFRICA. The IAEA's PhD Sandwich Programme could offer an abundance of opportunities. AFRA NEST leads the implementation of the PhD Sandwich Programme by inviting PhD candidates to pre-defined topics specific to AFRICA. AFRA NEST also facilitates an exchange programme of lectures between countries with advanced programmes to provide the countries with adequate programmes.

I would like to thank Vice Chancellor Professor Bismark Tyobeka and North West University Management for agreeing to host these important meetings. We strongly believe that the planned site visits to the University and South African

Nuclear Corporation (Necsa) will be an opportune time to establish and strengthen collaboration amongst African University in attendance.

Let me also once more thank you Prof Shaukat Abdulrazak, Director of the IAEA's Technical Cooperation Division for Africa and your officials, for continuously emphasizing the importance of developing human resource capacities in Africa as a driving force for the contribution of the peaceful use of Nuclear Science and Technology for development.

I am informed that you visited us in 2022, as the Department we acknowledge and appreciate your presence in the country including implementation of other important initiatives like the Rays of Hope: Cancer Care for all.

I am informed that our sister Department of Health has acceded to the Agency's call by nominating Steve Biko Academic Hospital as an Anchor Centre for the Region.

Lastly, We look forward to promoting the use of nuclear technology in different sectors, particularly for peaceful purposes.

*Thank You,*