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## APPLICABILITY OF KENYA'S LEGAL FRAMEWORK TO SUPPORT THE DEPLOYMENT OF SMALL MODULAR REACTOR

### ABSTRACT

The advancement of Small Modular Reactor (SMR) technologies has garnered increased interest from embarking countries considering introducing nuclear power in their energy mix. This is attributed to the unique characteristics associated with SMR technologies such as: fitness for smaller electricity grids; suitability for non-electric application; scalability; and site flexibility. Both the technology developers and the technology recipient countries are developing and enhancing the existing and new infrastructure to support the deployment of SMR technologies. Despite the efforts to accelerate the deployment of the SMR, technology recipient countries face numerous obstacles including legal and regulatory issues, standardizations and supply chain. Kenya, an embarking country, has adopted the IAEA Milestone Approach for the implementation of its nuclear power programme and it is currently in phase II. According to the national energy master, Kenya plans to introduce about 300 MWe, SMR, to its national grid by 2036 and two (2) additional similar sized units to be added in subsequent years. To achieve the set timelines, Kenya initiated the development of a new and enhancement of existing legal framework to support safe, secure and peaceful utilization of nuclear technology. This includes development of the nuclear regulatory act, drafting of the nuclear policy and ratification of the requisite treaties and conventions. This paper assesses the adequacy of the aforementioned framework, the Nuclear Regulatory Act, to determine its suitability to support the deployment of the SMR in Kenya. The assessment identified areas of compatibility and gaps taking into consideration the international standards and the novel aspects of SMRs. The findings of this research shall form a basis for the development of a comprehensive legal and regulatory framework for the deployment of SMRs in Kenya.

### KEY WORDS:

Small Modular Reactor, Legal framework, Technology Recipient Countries , Nuclear Policy, Milestone Approach.

### Country OR International Organization

KENYA

### Email address

cowino@nuclear.co.ke

### Confirm that the work is original and has not been published anywhere else

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**Authors:** Mr OWINO, Collins; Mr MWANGI, Joe

**Co-authors:** Mr OHAGA, Erick; Mr NDUMA, Joseph; Ms OSORO, Queenter; Ms ACHIENG, Ruth

**Presenter:** Mr OWINO, Collins

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