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Adapting to Innovation: The Role of Regulatory Oversight in the Emerging Era of Small Modular Reactors

Recently, there has been a surge in interest in Small Modular Reactors (SMRs), especially in developing and newly industrializing countries. Recognized for their potential as a low-carbon, competitive option in future integrated energy systems. A critical aspect of SMR deployment is the development and implementation of a structured regulatory oversight program. This is essential not only for ensuring the safe and secure operation of SMRs but also for bolstering confidence in this emerging technology. Moreover, the introduction of SMRs presents unique challenges. These include their novelty and the significantly shorter construction time as compared to the longer periods required for traditional nuclear power plants.

This paper delves into the strategic actions of the Kenya Nuclear Regulatory Authority (KNRA) in evaluating and improving their regulatory framework, with a focus on the safe and secure use of SMRs. As Kenya steps into the nuclear technology arena, it has initiated crucial steps such as developing a leadership model that embodies the principles and values of a national nuclear regulator, identifying and defining key processes crucial for the regulatory body's efficient functioning. The paper also highlights the development of a tailored organizational structure aligned with the current strategic plan and emphasizes the importance of identifying and prioritizing essential competencies vital for effective regulation and management of nuclear technology.

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