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Controlling Investment Risks by Integrating Decommissioning by Design in SMR Development

Nuclear-21 presents an innovative approach to Small Modular Reactor (SMR) development, emphasizing end-of-life considerations ('Decommissioning by Design') as not only a priority in the licensing and environmental assessment processes, but also in determining investment risks in new nuclear development. Our methodology prioritizes the meticulous planning of decommissioning sequences, aiming to minimize radiation exposure and radioactive waste, thereby easing the load on waste facilities and future generations. This holistic approach encompasses both physical design elements and organizational planning strategies, ensuring that end-of-life considerations are integral to licensing, environmental assessments, and investment decisions. We advocate for clear decommissioning frameworks from the outset, including funding mechanisms and responsibilities, to inform investment in both prototypes as well as the series plants. Leveraging 3D modeling and Building Information Modelling (BIM), we aim to significantly reduce decommissioning costs and associated investment risks. Our presentation will outline how these strategies can mitigate common decommissioning challenges. Examples of typical decommissioning issues which can be alleviated or even eliminated when considering decommissioning in the design process will be discussed.

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

YES

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