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Collaboration –the key to standardized SMR deployment

The successful worldwide deployment of SMRs is fundamentally dependent on developers'ability to construct plants with factory produced modules that are as identical as possible. Differences in approaches to national nuclear regulation however currently demand significant changes to NPP designs when a reactor is exported.

These national approaches to regulation effectively reset projects outside the reactors'country of origin to first of a kind (FOAK) deployments. This is not only a regulatory challenge and the presentation will also explore the role of industry in developing and utilizing relevant good practice to support deployment of standardized designs To learn the lessons from previous licensing, construction, and operation experience and support Nth of a kind (NOAK) deployment of SMRs it is critical that greater collaboration between stakeholders is facilitated as soon as possible.

The nuclear industry and governments came together during COP28 to sign pledges in support of tripling nuclear capacity by 2050. This will require the deployment of 40GWe nuclear capacity every year for the next 25 years, equivalent to a yearly addition of 70 SMRs and 20 GW NPPs.

The recently released joint industry association framework report outlines a 3-phase approach moving towards towards greater efficiency and collaboration in regulatory reviews, which is a critical component to support the scale of deployment necessary.

Such a framework requires a shift in mindset and approaches but there are many steps along this journey and changes will not be overnight. The initial proposal would be to start small and develop the process and bounding criteria for a small number of diverse regulators on specific designs.

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