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Westinghouse Electric Company: Decarbonization of the Electric Power Sector and the Challenges Facing Advanced Reactors to incorporate Safety, Security and Safeguards Measures

Reducing greenhouse emissions while expanding energy access for economic development is an energy sector challenge requiring electrical power generation without fossil fuels. The nuclear industry's contribution can be enormous if the cost of new nuclear plants can be minimized. However, novel technologies introduce inherent financial, technical, and licensing challenges. System developers must understand the safety, security and safeguards requirements, their interfaces, opportunities for integration, and implementation challenges.

Westinghouse Electric Company (Westinghouse) is developing a corporate Safeguards by Design program for the eVinci™ Micro-Reactor, thus accepting risk into the reactor design process by addressing requirements and costs traditionally borne by the facility operator and State and based upon the facility location and final design. This fundamental change requires close and meaningful interaction between State, regional, and international safeguards stakeholders and industry. Shifting all, or part of this burden to the reactor designers, without the customer and State identified will result in increased development and production costs. While the economic costs and benefits of safeguards by design are still unknown, the promise of overall cost savings and increased market access at the deployment phase has tipped the incentives toward a safeguards by design program.

Country OR International Organization

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