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## CFS Experimental Plans at LIBRTI to De-Risk the ARC Blanket

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The ARC fusion power plant will produce 400 MW net electric and is targeting operation in the early 2030s at a site in Chesterfield County, Virginia. ARC will deploy a first-of-a-kind FLiBe salt blanket for the purposes of tritium breeding, converting fusion energy to heat, component cooling and shielding. To enable ARC deployment in the early 2030s, CFS has begun a program of salt R&D work. Specifically to de-risk tritium breeding and behavior in a FLiBe blanket, CFS is interested in demonstrating a blanket “mock-up” that can achieve a tritium breeding ratio above unity. This demonstration would serve to validate key workflows and investigate fusion-specific radiochemical phenomena. This presentation will share a preliminary framework for evaluating TBR, early work towards a mock-up design, and highlight opportunities for supporting developmental R&D.

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