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CASL: The Consortium for Advanced Simulation of Light Water Reactors DOUGLAS B. KOTHE, Oak Ridge National Laboratory, CASL TEAM — Like the fusion community, the nuclear engineering community is embarking on a new computational effort to create integrated, multiphysics simulations. The Consortium for Advanced Simulation of Light Water Reactors (CASL), one of 3 newly-funded DOE Energy Innovation Hubs, brings together an exceptionally capable team that will apply existing modeling and simulation capabilities and develop advanced capabilities to create a usable environment for predictive simulation of light water reactors (LWRs). This environment, designated the Virtual Reactor (VR), will: 1) Enable the use of leadership-class computing for engineering design and analysis to improve reactor capabilities, 2) Promote an enhanced scientific basis and understanding by replacing empirically based design and analysis tools with predictive capabilities, 3) Develop a highly integrated multiphysics environment for engineering analysis through increased fidelity methods, and 4) Incorporate UQ as a basis for developing priorities and supporting, application of the VR tools for predictive simulation. In this presentation, we present the plans for CASL and comment on the similarity and differences with the proposed Fusion Simulation Project (FSP).

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