

NE-23-31246 – PIE-Enabled Study of Aqueous Corrosion & Zr Hydriding in Cr-Coated Cladding

Westinghouse Electric Company, located in Cranberry Township, PA, develops new nuclear technologies that can provide reliable, clean, safe, and economical energy to future generations.

The objective of this project is to enhance understanding of aqueous corrosion and hydrogen transport for Zr hydride formation in Cr-coated claddings, as a function of the Cr-coating deposition method (cold spray (CS) or physical vapor deposition (PVD)).

Westinghouse will work with Pacific Northwest National Laboratory (PNNL) and Idaho National Laboratory (INL) on this post irradiation examination (PIE) campaign. Both PNNL and INL bring advanced characterization capabilities and long-standing experience in the PIE of irradiated materials. The results of this project will support the licensing of the Cr-coated accident-tolerant fuel cladding.