

NE-24-33398 – Test Vehicle Development to Support Oklo's Advanced Fuels Roadmap

Oklo Inc. is located in Santa Clara, CA. Oklo is designing and deploying advanced fission power plants to provide clean, reliable, affordable energy. Aurora, a fast reactor, which can produce up to 15MW of power and operate for 10 years before refueling, will be their first next-generation fission reactor.

Currently, a suitable test reactor does not exist within the U.S. for performing prototypic sodium fast reactor fuels and materials testing. While tests using the Advanced Test Reactor (ATR) have been beneficial. There are shortcomings: the need for high-enriched uranium (HEU) to achieve prototypic burnups, the inability to test pilot-scale fuels and fabrications processes, and the inability to match the prototypic operating conditions of sodium fast reactors. Oklo intends to use its initial Aurora powerhouse at INL to support irradiation and testing of advanced fuel forms.

Oklo will partner with Idaho National Laboratory (INL) to determine the layout of a test facility and support completion of the preconceptual design of the experimental test vehicle that will be used to expand existing fuels data.