NE-23-29866 – Thermal Property Measurements for an LEU-Fueled Molten Salt Reactor

Flibe Energy Inc. is located in Huntsville, Alabama. Their mission is to supply the world with energy that is safe, reliable, efficient, and sustainable.

An LEU-fueled MSR requires a carrier salt with low-melting point at high concentrations of actinide fluorides. This project seeks to model and experimentally confirm the composition of two known salt systems ($LiF\text{-}NaF\text{-}UF_4$ and $LiF\text{-}NaF\text{-}ThF_4$) as the fuel and blanket salt for Flibe's Lithium Fluoride Low-Enrichment Uranium Reactor (LFLEUR).

Flibe will partner with Argonne National Laboratory (ANL) to perform thermophysical property measurements of Flibe Energy salt systems. ANL will fabricate and characterize the salts. Flibe will utilize the salt properties as an input into their existing modeling tools to support further technology development.