

Thorium Molten Salt Reactor (TMSR-LF1), Minqin County, China

China is completing its first thorium based molten salt reactor (MSR) and GEOINT analysis reveals the reactor is likely externally complete. According to reports the reactor and is expected to reach criticality in September 2021, having a thermal power level of two megawatts. MSRs use molten fluoride salts as primary coolant, at low pressure.

MSR technology is not new, but China may now be at the forefront of its current development. The Chinese reactor is the first MSR operating in the world since 1969, when the US abandoned its Oak Ridge National Laboratory facility in Tennessee. The reactor is thorium-fueled, which is another advancement in that it is an alternate technology to current uranium-fueled nuclear reactors.

Among the advantages that MSRs offer is that the molten salts serve as a means of heat transfer and hence these reactors are not as reliant on water for cooling and can be operated in arid areas like the Gobi Desert. Among the drawbacks are the increased potential for corrosion on reactor structures by the high temperature salts. There is also the issue that, while not producing plutonium, MSRs produce highly radioactive uranium 233 which also can be used in nuclear weapons.

To learn more about the development of this thorium based molten salt reactor or other nuclear programs in China contact sales@allsourceanalysis.com.

