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Advanced Reactors Cost Study

One of the concerns of advanced nuclear reactors is the cost study being unreliable from company to company and system to system. The goal of this study is to create a levelized cost of electricity among all reactor types to truly determine the economic feasibility of building a generation IV or higher reactor. The claim of this study is that not only will advanced reactors be able to produce electricity cheaper than LWR and PWR reactors, but that they could also be able to compete in the total market among all production types if they manage to operate on the lower end of the LCOE graph.

The way that advanced reactors are able to beat out older reactors is due to lower construction costs due to faster building time frames. This represents the largest capital drain on resources for running a reactor so reducing this will reduce the cost of electricity to the consumer. The other way that advanced reactors hope to beat out conventional reactors is by reducing indirect costs. By creating more safety features, utilizing fuel more efficiently, and improving generation methods advanced reactors are theorized to have less down time than conventional reactors. The reduction in down time will allow more generation of electricity which reduces costs. Overall the study showed that theoretically Gen IV reactors will produce cheaper electricity than conventional reactors and using the LCOE method for cost analysis we can compare the Gen N reactors in the future as well.