The Discovery of Nuclear Fission led to the First Controlled Nuclear Chain Reaction, which led to Commercial and Advanced Reactor Designs

*Argonne research is the foundation for the technology at the forefront of most commercial and many advanced concept reactors.*

- **CP-1**: Enrico Fermi’s success at producing the *world’s first* man-made controlled nuclear chain reaction.
- **Submarine Thermal Reactor** physics critical experiments: supported the USS Nautilus reactor design and designs of commercial pressurized water reactors.
- **BORAX** experiment series: demonstrated the boiling water reactor concept proposed by Argonne researcher Sam Untermyer. 1955: the BORAX-III reactor generated all the electricity used by Arco, Idaho – a first.
- **Experimental Boiling Water Reactor**: the forerunner of commercial boiling water reactor plants.
- **Experimental Breeder Reactor I**: developed and tested the fast reactor concept. 1951: *first* reactor to generate useable amounts of electricity.
- **Experimental Breeder Reactor II**: metal fuel, sodium-cooled pool design, prototype for the Integral Fast Reactor power plant; the Shutdown Heat Removal Tests demonstrated the plant’s inherent safety characteristics.
- **Integral Fast Reactor** concept: inherently safe, self-sufficient closed system fast reactor power plant using metal fuel, sodium pool design, and pyroprocessing to recycle spent fuel; puts waste products in final form for disposal.

*Read more on our “Reactors Designed by Argonne” pages.*
http://www.ne.anl.gov/About/ANL-Reactors.html