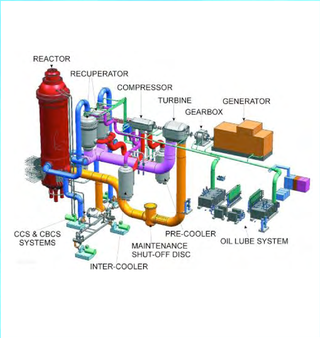
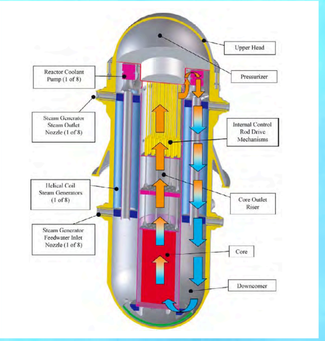
Advanced Reactor Designs



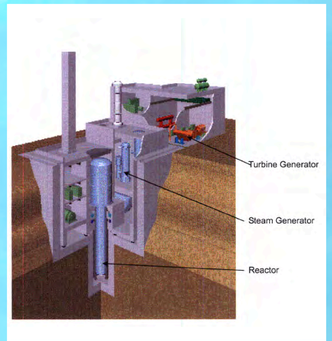
PBMR (Pebble Bed Modular Reactor)

- **Vendor:** PBMR, Pty. Limited.
- **Reactor Power:** 400 MWt
- **Electrical Output:** 165 MWe
- **Coolant:** Helium
- **Outlet Temperature:** 900°C
- **Fuel Design:** Low-enriched Tristructural-isotropic pebbles, UO^2
- **Refueling:** Online



IRIS (International Reactor Innovative and Secure)

- **Vendor:** Westinghouse
- **Reactor Power:** 1000 MWt
- **Electrical Output:** 335 MWe
- **Coolant:** Light water
- **Outlet Temperature:** 327°C
- **Fuel Design:** 17 x 17 assemblies
  - 4.95 percent enrichment UO^2
- **Refueling:** 3–3.5 years



4S (Super-Safe, Small and Simple)

- **Vendor:** Toshiba
- **Reactor Power:** 30 MWt
- **Electrical Output:** 10 MWe
- **Coolant:** Liquid-metal (sodium)
- **Outlet Temperature:** 510°C
- **Fuel Design:** Hexagonal fuel assemblies
  - U-10 percent Zirconium Alloy
- **Refueling:** 30 years

NuScale

- **Vendor:** NuScale Power Inc.
- **Reactor Power:** 150 MWt
- **Electrical Output:** 45 MWe
- **Coolant:** Light water
- **Outlet Temperature:** 296°C
- **Fuel Design:** 6-foot long, 17 x 17 assemblies
  - 4.95 percent enrichment
- **Refueling:** 30 months

Hyperion

- **Vendor:** Hyperion Power Generation
- **Reactor Power:** 75 MWt
- **Electrical Output:** 30 MWe
- **Coolant:** Potassium
- **Outlet Temperature:** 550°C
- **Fuel Design:** Uranium hydride
  - 4.95% enrichment
- **Refueling:** 5 years
- **Application:** October 2011