

There are two types of 21st century reactors that cannot melt down no matter how badly they are treated. Safety is guaranteed by laws of physics.

In the pebble bed reactors, stopping coolant flow removes the space between fuel pellets. The space between fuel pellets must be filled with moving water. The water is the moderator to slow down the neutrons so that the reaction can take place. No coolant flow, no reaction. These pebble bed reactors will never experience a meltdown. It just can't happen because of laws of nature. The US has 2 pebble bed reactors.

In the recommended and newly invented helium cooled reactor, the core is made of high temperature [refractory] materials that simply will not melt if coolant flow ceases. The core is cooled from a higher temperature by heating the containment building, which also does not melt. The containment building heats its surroundings in the case of coolant flow loss. The helium cooled reactor uses helium as the working fluid to turn a turbine. Helium gas is the ideal fluid to turn a turbine because it can be made very pure so that the turbine blades will last a very long time.

Safety is assured in all US built reactors by the containment building, which is a pressure vessel and which, as in the case of the now obsolete 3 mile island reactor, can and did contain the overheated core. There were ZERO casualties.

American reactors are now too safe. Nuclear power is overpriced because of the excessive safety. 20,000 to 30,000 Americans die each year because of those poisons listed below that come out of coal fired power plants. It is C O A L fired power plants that kill 20,000 to 30,000 Americans each year. Nuclear power plants kill ZERO Americans each year. It is COAL burning that will make us go extinct in about 100 years if we keep doing it.

The problem is that we OVERSHOT on safety design because of people who protest nuclear power. American reactors are TOO safe. It is COAL fired power plants that give you 100 times as much radiation. Coal is almost pure carbon, except for the URANIUM, ARSENIC, LEAD, MERCURY, Antimony, Cobalt, Nickel, Copper, Selenium, Barium, Fluorine, Silver, Beryllium, Iron, Sulfur, Boron, Titanium, Cadmium, Magnesium, Calcium, Manganese, Vanadium, Chlorine, Aluminum, Chromium, Molybdenum, Thorium, Zinc and all of the decay chain of uranium that are coal's impurities. We could fuel our nuclear plants from the uranium and thorium in the smoke and cinders from coal fired power plants. Coal cinders are an economically viable ore for several of the listed impurities.

French reactors use American technology that is about 3 decades old. Nuclear power in France undercuts the cost of coal by 30% WITHOUT SUBSIDIES.