

Nuclear power essay

[Countries](#), [United States](#)



a) Hook: Nuclear energy should be limited b) Back ground information:

Nuclear energy is produced during reactions in the nucleus of an atom.

Atoms can be thought of as miniature solar systems with which the nucleus at the center like a sun and electrons orbiting around it like planets.

Densely packed neutrons and protons make up the nucleus, which is held together with grate force, the “ strongest force in the nature. ” When the nucleus is bombarded with a neutron, it can be split apart a process called fission. Uranium is the heaviest natural element and has ninety-two protons because uranium atoms are so large, the atomic force that binds it together is relatively weak, so fission is more likely than other elements. In nuclear power plants, neutrons collide with uranium atoms splitting them. This split release neutrons from the uranium that, turn, collide with other atoms, causing a chain reaction. Fission release energy that’s heats water to approximately 520? F in the core of the plant. The steam that is created is then used to spin turbines that are connected to generators, which produce electricity.

) Environmental damage and Nuclear weapons are the defects of nuclear energy 2) Body I: Nuclear waste did not begin to be generated in large quantities until after the World War II (1939-1945), when several nations began building thousands of nuclear weapons along with scores of nuclear power plants to generate electricity. Because national survival was thought to depend on building atomic bombs, radioactive waste was treated as unimportant. As a result, poorly contained wastes were created by weapons programs. In 1954, a chemical explosion at a Soviet (now Russian) waste-storage site at Kysthym in southern Ural Mountains contained about 5, 800

square mi. (15, 000 square km) and forced the evacuation of over 10, 000 people.

The Soviet Union denied that the event had occurred until 1989, and reports of hundreds of deaths from the accident are still denied by the Russian government. Then problem of radioactive waste is still unsolved one. The waste from the nuclear energy is extremely dangerous and it has to be carefully looked after for several thousand years.

Where one should put the waste? How long must such waste be store before it does not pose a hazard to society? Nuclear waste always carries such kind of difficulties. Approximately 270, 000 tons of nuclear waste has already been produced globally (data were taken in 2007), and current projection are for an additional 12, 000 tons to be produced annually for the next 25 years. Understanding of safety issues surrounding nuclear waste has improved significantly since the end of 20th century.

Science nuclear waste is radioactive and slow to decay, it can cause harm for thousands of years. Considerable political and technical controversy surrounds issues relating to the safe storage of the waste. Safety issues must be considered in transporting radioactive material to a desired location. The risk involved include accidental leakage of the radioactive material while en route and attempts to seize the material for purpose of terrorism or extortion. There is also the threat of geological rupture. For example, if an earthquake occurred, it could break open the container materials holding the nuclear waste. The method widely considered viable for nuclear waste disposal is to contain the radioactive material within a non- reactive barrier

and bury it deep within the earth's crust in a region not known for geological disruption.

Some scientists have theorized that if war happened in which hundreds of nuclear bombs exploded, the smoke they would create through fires could prevent sunlight from reaching the earth's surface, leading to cold weather, failing harvests and worldwide famine. This scenario has been dubbed nuclear winter. During the operation of nuclear power plants, radioactive waste is produced, which in turn can be used for the production of nuclear weapons. Nuclear weapons are explosive devices that get their destructive power from the transformation of matter into energy. They are many times more powerful than all conventional bombs. In 1945, many people have speculated that their extensive use in war could end human civilization as we know it.

The nations of the world have long sought to limit the spread of nuclear weapons and to reduce the chance of their use in war. Nuclear power plants as well as nuclear waste could be preferred targets for terrorist attacks. No atomic energy plant in the world could an attack similar to 9/11 in New York. Such a terrorist act would have catastrophic effects for the whole world. The first country to explode a nuclear weapon was the United States, which tested its nuclear explosive on 16 July 1945. On 6 and 9 August 1945, the United States used nuclear weapons to destroy two Japanese cities, Hiroshima and Nagasaki.

Nuclear weapons can create deadly radiation including gamma rays. Initial nuclear radiation is what is created in the first minute of a nuclear blast.

Nuclear radiation can damage the cells of human and other living creatures, resulting in radiation sickness and, in some case, death.

In Hiroshima, an additional sixty- thousand Japanese died by the end of 1945 from radiation sickness. Many who survived were later found to have a greater probability of getting cancer.