

Nuclear power plant

[Linguistics](#), [English](#)



Nuclear Power Plant Nuclear power plants are thermal power stations with nuclear reactors which produce heat used for steam generation that drives the steam turbine. The steam turbine is connected to a generator that produces electricity. The nuclear power plants are a good source of constant supply of electricity for industrial and domestic use in the world nowadays due to the growing demand for electricity. However, the nuclear plant has some of the severe consequences to human beings if not handled properly or in a case where an accident occurs or when nuclear weapons are used during war. This is due to their devastating effects on the environment and people generally. Radiation exposure can also lead to DNA damage and this can result in dysfunction or cell death.

Underground uranium mining is the most dangerous than other underground mining because uranium ore emits radon gas. This has led to miners in uranium ores developing small cell carcinoma a lung cancer. Even the decay product of uranium has been shown to be cancer causing agent which is a serious health problem. Employees in nuclear reactors and the surrounding society can be affected by radioactive radiation which can leak through the piping system or pressurizers. Radioactive substances released to the air or rivers leads to contamination which ends as a cause of cancer. Nuclear power is however clean because it does not involve projection of dust to the environment like in the case of fossil burning.

Most power plants are located near a large water body like an ocean or a lake to get enough supply of water for cooling effects to expel heat from the reactor. The use of natural water bodies adversely affects the aquatic life e. g. fish, of the ecosystem under which heat has been released to because this

heat can be the cause of anomalies in the sea or cause fluctuations in the river flow rates. This use of water bodies can be avoided through the use of cooling towers in the nuclear reactors which are located beside the reactors to cool the reactor. The civilians living near nuclear reactors should be properly educated to avoid responsible response during disasters. It can be described as healthy since they produce clean energy that does not pollute the environment while it's used.

Accidents in nuclear reactors are very rare but devastating when they happen. The worst nuclear reactor accident at Chernobyl nuclear plant in Ukraine was as a result of flawed reactor design and mistakes of the plant operators. It destroyed the reactor killing 30 people within 3 months and other deaths were reported later. In October 1957, a soviet nuclear weapons factory nearly exploded due to explosion of reactive wastes, the Lubmin nuclear reactor in Germany nearly melted as a result of safety systems failure when a fire broke out. Many instances of accidents have occurred ever since and the recent one being the Fukushima nuclear power station in Japan on March 12 2011, one of the buildings crumbled to the ground when an explosion occurred on the reactor due to failure of the cooling system as a result of the tsunami that had hit Japan. As a result of this accident, radioactivity was released to the atmosphere. Incidences like these ones are rare and if the reactors can be built away from areas prone to earthquakes and near the coast lines to avoid floods, these accidents can be easily controlled.

The nuclear reactors produce a lot of energy that is cheaper to run industrial activities and the energy produced is not environmental pollutant. However,

the capital needed to put up a nuclear reactor is huge and in cases of accident, the effects are very devastating because they cause long term effects.

Work Cited

U. S Government and Nuclear Regulatory Commission. 2011 Essential Guide to Nuclear Power Plants and Nuclear Energy: Reactor Designs, Safety, Emergency Preparedness, Security, Renewals, New Designs, Licensing, American Plants, Decommissioning. New York: Progressive Management, 2011. Print.