

The dangers of radiological energy



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Throughout history, scientific advancement in energy has enhanced civilization. As civilization grows, so does the increase in energy sources. Many of those advancements people rely on. Society enjoys the fruits of someone else's labor without knowing intricate details about how lethal some of these energy source can be. The Chernobyl incident emphasizes the dangers that the use of nuclear and radiological energy can have. The Chernobyl incident, caused irreversible change on the environment and its community.

On April 26, 1986, rupture in a reactor at the Chernobyl Nuclear Power Plant and caused an explosion. This explosion caused a fire and released large quantities of radioactive contamination into the atmosphere miles from the city Chernobyl. Because of the explosion, an uncontrolled fire began and lasted two weeks. This burn of radioactive material released more than one billion curies around the northern hemisphere. Per "The Other Report on Chernobyl", "Chernobyl was 200 times that of the combined releases from the atomic bombs dropped on Hiroshima and Nagasaki" (Fairlie). This fact shows the devastation that the people in this region were dealing with. This unhealthy dose of radiation exposure caused the displacement of many people. Many citizens were advised to evacuate. Many abandon their homes and fled to regions where radiation doses were high. Radiation being invisible, forced people unknowingly to migrate into these regions with high radioactivity. The countries initially exposed to radiation were Russia,

Belarus and the Ukraine. This exposé increased the risk to the public's health in these neighboring countries.

This catastrophic event exposed numerous people to radiation. The capacity of exposed radiation was enormous, " accident of 1986 released vast quantities of radioactive materials and significantly contaminated about 200,000 square kilometers of land" (Mousseau). Acute radiation syndrome caused the death of over 30 Chernobyl plant workers and first responders a few days and weeks after initial exposure. Per the NRC and UNSCEAR " More than 6,000 cases of thyroid cancer may eventually be linked to radiation exposure in Ukraine, Belarus and Russia" (Lallanilla). Acute radiation is an illness that causes digestive problems to include, nausea, vomiting, diarrhea. This exposure to radiation has complicating effects on the nervous system, heart, and lungs. Some studies show an increase in West Germany, Greece and Belarus of childhood leukemia from the Chernobyl incident. These children were likely exposed to high dose of radiation which can damage genes and chromosomes. Thyroid cancer is very rare in children, this rapid increase was surely related to the Chernobyl nuclear disaster. This transpired among the young adolescents at the time of the accident. Accordingly young children exposed lived in the areas of Belarus, the Russian Federation and Ukraine which were the most contaminated at the time. Many adults exposed also suffered from thyroid cancer to include leukemia. Leukemia has the highest radiation related relative risk of all cancers when exposed in early childhood. These developments are awful long lasting remnants of what this catastrophe did to people.

Exposure to the agriculture and the environment due to radiation was apparent. A large percentage of the area was used for farming, the forest and bodies of water were also contaminated. The exclusion zone received the highest level of radiation. This is the area where plants and animals inhabited. Radioactive material remains in the soil, which contaminated the plants that grazing animals fed, then transferred to the milk and meat. This led to more exposure to people and restrictions on the consumption of food contaminated dealing with transportation and production related to the incident. This contamination caused adverse health reactions which'd caused people to become sick. Animals in the region have done well. The abandonment of the area allowed the exclusion zone to become a thriving ecosystem. This abandonment allowed plants and animals to flourish without the influence of human disturbance. Animals such as beaver, moose, brown bear, wolves and lynx have been successful adapting in this environment. It has been difficult to determine how the animals respond directly from the radiation. "Species richness and abundance of animals can be affected by numerous environmental factors other than radiation" (Mousseau). Some research on wildlife reveals subtle changes, with no effects on longevity or reproduction. In many cases a lot more research is needed to determine how the effects of radiation have challenged many animals in this ecosystem.

This exposure to radiation changed the lives of many. Many of these changes and challenges affected so many because of this horrific event. Extensive radioactive materials were released resulting in a radioactive cloud that spread over much of Europe. This radiation exposure transformed a

community to include the people, animals and the environment in which they coexisted. The circumstances of this event made more aware of the contributing dangers that nuclear energy is capable of. The drastic change and dynamic of effects left unforgettable images for those who experienced it. Since this event compelling progress has happened in the developments of stricter safety and health guidelines relevant to issues regarding radiation protection.

References

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