

Chernobyl informative speech

[Environment](#), [Ecology](#)



Attention Getter: There are currently 442 active nuclear power reactors worldwide according to the Nuclear Energy Institute. Of all of the reactors worldwide, 14 have been classified as accidents where the public has been exposed to radiation. The most devastating of these incidents was the core meltdown of reactor 4 at Chernobyl, better known as the Chernobyl disaster.

Introduction: Today I am going to tell you 3 things about Chernobyl.

1. First, I am going to tell you what Chernobyl was.
2. Second, I will tell you Why it happened and Finally, I will tell you what the effects were and why it's relevant today.

Body 1 “ What was Chernobyl”? :

- April 26, 1986 in the early morning hours, an explosion rocked a thriving city near the heart of Ukraine.
- Within days 150 nearby towns had been evacuated.
- This explosion would become the beginning to the worst nuclear disaster in history.
- Chernobyl's power reactors were graphic reactors, not commonly used anywhere outside of the Soviet Union.
- In certain circumstances, the graphite reactors could speed up the nuclear reaction. This was a flawed Russian Design that ultimately led to the disaster.
- Chernobyl was classified as a category 7 nuclear event, the most severe classification according to the Nuclear Event Scale.
- Comparatively Three Mile Island was only classified as a category 5.

Body 2 “ Why did it happen? ”:

- Next I am going to tell you why it happened.
- The disaster occurred due to an experiment which was being run by the reactor engineers.
- The purpose of the experiment was to determine whether electricity could be drawn from a turbine and redirected to the water pumps. High electrical demand during the day time meant they could not run the experiment until 11pm.
- The engineers grew impatient, reducing the rate of nuclear reaction too rapidly.
- Reducing the rate this quickly caused a rapid buildup of radiation poisons.
- To counteract this build up, the control rods were withdrawn. This meant they were no longer able to control the rate of reaction.
- These 2 critical errors (withdrawing the rods and slowing the reaction too rapidly) made the engineers incapable of increasing the power within the reactor. This was a safety precaution that the engineers overrode.
- Normally, in a situation where the reactor becomes unstable two fail safe measures were in place.

First, the power of the reactor could be increased to re-stabilize the nuclear reaction And Second, the engineers could wait 24 hours to allow the reaction chemicals to dissipate

- The Engineers however, had already disabled the first failsafe by removing the control rods.

- The engineers also continued to turn off additional safety precautions including the emergency reactor cooling system. This system was designed to help stop the reaction if too much heat was generated.
- The emergency energy supply was also shut down, meaning there was no additional energy to run the plant.
- The experiment continued and the turbine generators were also shutdown.
- The electrical supply to the reactors water pumps was reduced as a result of the experiment, reducing the amount of cooling water passing through the reactor.
- Because of this, water within the reactor core began to boil.
- This was troublesome, since the cool water was used to reduce the heat of the reaction. As the rate of nuclear reaction continued to accelerate, additional graphite tipped control rods were released by the engineers.
- Under normal circumstances, the control rods were designed to slow the rate of reaction.
- However, with the reaction already accelerating out of control, the insertion of the graphite rods further increased the reaction.
- After disabling or exhausting all potential failsafe methods, the engineers had run out of possibilities and had lost complete control of the nuclear reactor.
- Enough pressure had built up within the reactor to cause an explosion, leading to the collapse of reactor 4. Following the explosion, the

engineers and reactor workers attempted to hide the incident from authorities.

- This meant that evacuation effort could not fully begin for 36 hours after the explosion.
- Because the incident was not immediately reported and the public was never made fully aware, farm produce, dairy and the air was contaminated with extremely high levels of radiation and extremely high levels of radiation and subsequently consumed by the residents in regions surrounding Chernobyl.
- Within hours of the explosion, residents of the nearby city of Prypiat began to fall ill.

Body 3: How is it relevant to us? Finally, I'm going to tell you what the effects were and why Chernobyl is still relevant today.

- Hundreds of thousands of people were affected by the accident
- 150 villages and towns were abandoned displacing thousands of people from their homes.
- As a result of the widespread release of radiation scientists estimate that 100,000 square miles surrounding Chernobyl had been significantly contaminated.
- Significant levels of radiation from Chernobyl were recorded at the Forsmark Nuclear power plant about 600 miles away from Chernobyl.
- Over 600,000 workers were involved in the cleanup of Chernobyl. Many of these workers received significant levels of radiation.

- The international atomic energy agency noted more than 1800 documented cases of thyroid cancer in children 14 and under immediately following the disaster, much higher than normal.
- Most of these were identified early and successfully treated.
- The disaster brought to light the severe effects of radiation poisoning on the body according to the international Nuclear safety group: “ Krypton 85 affects the entire body and can increase the likelihood of developing cancer such as leukemia within two years of exposure. Cesium 137 can attack the entire body, centering on the liver, spleen and the muscles. Barium 140, gathers in the bones and can cause tumors as late as thirty years after exposure. Iodine 131 gathers in the thyroid. It can trigger cancer in the thyroid decades following exposure”.
- The event brought awareness to the dangers of radiation not only from nuclear reactors but also from everyday occurrences such as getting an X-Ray at the hospital.

Conclusion:

Nuclear reactors are used more today than ever. The nearest one is in Chicago, IL. The disaster of Chernobyl made people more aware of the dangers.

More safety measures were put into place because of Chernobyl. These safety measures meant that containment and disaster relief was much faster and more effective during the 2010 Fukushima nuclear disaster in Japan. In conclusion I have told you what Chernobyl is, why it happened, what the effects and why it is still relevant to us today.

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