

The chernobyl nuclear meltdown: what happened

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The largest Nuclear disaster in the history of civilization happened at Chernobyl and it happened because of human error. Here is what happened.

On April 26th, 1986 at about 1: 23 am, reactor #4 of the nuclear reactor overheated and exploded. That released a radioactive cloud that ended up killing three people instantly and several thousand directly from radiation. The exact number is still questionable. It also caused untold troubles for much of Europe. The meltdown created a fear of nuclear power that still exists today. Here is what happened.

The meltdown occurs when the workers in Reactor #4 attempted a bad experiment. They turned off the reactor's power-regulating system and its emergency safety systems, and they withdrew most of the control rods from its core while allowing the reactor to continue running at 7 percent power. These mistakes added to others which only made the situation worse, and at 1: 23 AM on April 26 the chain reaction blew out of proportions. Several explosions triggered a large fireball and blew off the heavy steel and concrete lid of the reactor. This and the ensuing fire in the graphite reactor core released large amounts of radioactive material into the atmosphere, where it was carried great distances by air currents. A partial meltdown of the core also occurred.

When this originally happened the chief engineer was ignorant to the fact that the core had exploded despite a man coming and telling him that. He thought that it was just a fire on the roof. The man had radiation burns all over his body from the exposure. The chief engineer still believing that the core had not exploded sent two people to the core to try and cool it down by

putting lots of water on it. They returned to him with the same radiation burns on their bodies. The chief engineer then went to the storage facility to get a geiger counter. The one that they had available maxed out at 36sv. There was a more powerful one but it was in a safe that he did not have the combination for. At that time the firefighters had arrived and were trying to put out the existing fire. They were starting to feel the radiation and vomiting or getting burns on parts of their body. Most of the firefighters that came to fight the fire ended up dying because of radiation poisoning or other illnesses that happen as a result of that.

The chief engineer at this point let his boss know what was happening and he and some other very important in the Ukrainian government had a meeting about what to do about Chernobyl. When they had the meeting they still wrongly believed that the radiation levels for the plant was on 36 sv which wasn't good or bad. Some of the people wanted to evacuate the city but the majority of the people thought that the city was safe so they didn't evacuate. It wasn't until after the meeting that the person in charge told the chief engineer the code to get the real geiger counter. First he used one that went up to 1,000 sv and it disintegrated as soon as he turned it on. Next, he used one that went up to 360 sv and the radiation was so high that it was 300 sv. It was right around that time that the people who are still working at the plant realized that the core was gone and that there was an enormous amount of deadly radiation in the air.

The emergency safety system at chernobyl had been turned off. In order to perform the test, the workers stupidly disabled the emergency core cooling

system and other important safety equipment. A chain of operating mistakes then ensued, resulting in a buildup of steam that caused the reactor to overheat. It is safe to say that if the safety equipment had not been disabled then there would have been a very different result.

At least 28 people initially died as a result of the accident, while more than 100 were injured. The United Nations Scientific Committee on the Effects of Atomic Radiation has reported that more than 6, 000 children and adolescents developed thyroid cancer after being exposed to radiation from the incident, although some experts have challenged that claim. The 28 deaths that were immediately killed wasn't an incredibly large amount considering it was a nuclear meltdown. But there was so much radiation that made it bad because people miles away got many problems related to the extremely high radiation levels.

“ Soviet authorities started evacuating people from the area around Chernobyl within 36 hours of the accident. In 1986, 115, 000 people were evacuated. The government subsequently resettled another 220, 000 people.”

Soon after the Chernobyl meltdown, the Soviet authorities largely kept their own citizens in the dark and made no attempt to alert neighboring countries. On April 28, however, the cover-up began falling apart when Swedish air monitors detected large amounts of radiation in the atmosphere that seemed to have originated in the USSR. Pressed for an answer, the Soviets said that 2 people were killed but they then said that the situation was under

control which it clearly wasn't." The damage of the meltdown was more than 236 billion dollars and had taken away $\frac{1}{5}$ of their agricultural land."

" The accident caused the largest uncontrolled radioactive release into the environment ever recorded for any civilian operation, and large quantities of radioactive substances were released into the air for about 10 days. It was very bad for the people who lived in Belarus, Russia, and Ukraine. Two radionuclides, the short-lived iodine-131 and the long-lived caesium-137, were particularly significant for the radiation dose they delivered to members of the public". They were very deadly because of all the radiation that they were made up of.

On April 27th, 1986, one day after the explosion, the Soviet authorities proceeded to the evacuation of 116, 000 residents living within 30 km around the damaged plant. The area was evacuated in emergency within 30 hours and declared prohibited. The exclusion zone has since remained largely uninhabited, though defying the proscriptions, about 500 people, usually elderly, returned to live there, preferring not to leave the villages and the environments to which they were attached. There were about 350, 000 people who had to leave their homes and relocate. These days when you go to the exclusion zone you can see lots of wildlife because lots of animals go there and thrive. That is a very positive result of humans not being there anymore.

After the meltdown about 200, 000 people assisted in some way with the cleanup. Most of them died because of all the existing radiation that was still at the site of the meltdown.

In conclusion, the Chernobyl nuclear meltdown was a horrible disaster that could have been avoided. While there was a tremendous loss of life and Ukraine had to pay 236 billion dollars to clean it up there was a positive. It was so bad that to this day there is still cleanup happening Animals that have been endangered that have went into the exclusion zone population's have gone way up because of the fact that there are no humans around to take away their habitat.