
# - 2024 -

# Chernobyl 1986

# Letters from the Chairs

Dear Delegates,

Welcome to HMUNC! My name is Zayan Khan and I am a sophomore. I have taken the Model UN class once, and I have attended 5 conferences. Model UN has become one of my passions and has given me a small insight into what the UN does. I have also learned about historical events, world problems, and debate skills. Outside of Model UN, I play soccer and run track. I hope you will all enjoy our simulation of Chernobyl this year. I am looking forward to meeting all of you being your chair this year at HMUNC!

Sincerely,

Zayan Khan

Dear Delegates,

Welcome to HMUNC! My name is Sidak Rana and I am a junior. This is my first year doing Model UN and it has been an incredible experience. I have been to 2 conferences and this will be my first time chairing. Outside of Model UN I run track and enjoy making music. I hope you all will enjoy HMUNC and the Chernobyl committee. I cannot wait to make this an exciting committee for all of you!

In this committee, I highly encourage you to have discussions about your solutions; debate, question, and analyze the various ideas proposed, because the lives of millions rely on them. I urge you to consider the political and economic circumstances at hand and how much a solution can alter the outcome. Play your roles accurately and consider how your delegate would act during the Chernobyl Disaster, use that to create and push innovative solutions and diver discussions in committee. Nearing the end of the committee, I'd enjoy seeing the creation of solutions that can mitigate the chances of another disaster like Chernobyl from happening again.

I'm looking forward to being your chair this year at HMUNC and creating innovative solutions for this issue in May! Send us an email at the committee email with any questions or suggestions! Good luck!

Sincerely,

Sidak Rana

# How to Use this Guide

Dear Delegates,

This is the background guide for the Chernobyl Crisis Committee at HMUNC 2024. As your chairs, we have spent a lot of time writing and gathering research in order to create the best possible guide for you, in hopes it will aid you in your research and debate. We hope you take some time to read this guide as it will provide a useful guideline to the topics you will be discussing in debate as well as the potential solutions you may propose. This background guide should serve as one of the many sources you should utilize in order to conduct your research in preparation for our conference!

This background guide was designed to be easy to use and is filled with important information and topics that you may use in debate, and it provides delegates with a holistic understanding of both topics. In your position paper, you must include who your person is, what they believe in, their actions, and what possible solutions you may use to make the world a better place, and minimize the Chernobyl disaster. This background guide will help you understand the basic ideas of the issues, and it is your job to be innovative and figure out solutions. In order to aid you with your process of writing a position paper and finding solutions, we will have questions to consider at the end of the topic as well as descriptions of your position at the end of the guide! We look forward to hearing the ideas you bring to the table! Good luck!

**Our Committee email is:** chernobylcrisis2024@gmail.com

We look forward to seeing you in committee!

Sincerely,

Zayan Khan and Sidak Rana

# How to Write a Position Paper

We ask that you submit at least one position paper on Topic A (Impacts After the Explosion) to be considered for awards. Position papers should be no longer than one page in length and must have footnotes in MLA formatting for all sources used.

Paragraph 1:

- Explain who your character is
- Use the background guide to familiarize yourself with the topics and why the issues are important to Chernobyl.
- Explain the beliefs and ideas of your character
- Explain why this issue is important and should be addressed.

Paragraph 2:

- Research more to find out what your character has done
- You can include quotes from your person and statistics about your country to justify your position.
- Use the position guides listed at the end of the background guide to help you.
- Answer the question of what has the committee done

Paragraph 3:

- Come up with creative ideas that will help to solve the crisis. How can we address the Impacts after the Explosion. What possible actions can we take?
- Remember to propose solutions relative to your position's view and bloc (a bloc is a group of delegates that share similar ideas).
- At the bottom of the topic, we have added in questions to consider to help you find creative and thoughtful ideas.
- Make sure to write about what your position would like to accomplish in this committee.

**Position Papers are due by May 8th and must be e-mailed to**:

chernobylcrisis2024@gmail.com

# Committee Information

In April of 1985 an explosion took place in the Chernobyl Nuclear plant which was located in the former Soviet Union. The Chernobyl power station was situated at the settlement of Pripyat, 10 miles Northwest of the city of Chernobyl and 65 miles North of Kyiv, Ukraine. The station consisted of four RBMK reactors, each capable of producing 1,000 megawatts of electric power.

The Chernobyl accident in 1986 was the result of a flawed reactor design that was operated with inadequately trained personnel.[1]The explosion stemmed from a poorly designed experiment designed by workers at the powerplant. In the experiment, the workers shut down the reactor's power-regulating system and its emergency safety systems. They also withdrew most of the graphite control rods from its core while allowing the reactor to continue running at low power (about 7%). As a result, uranium fuel in the reactor overheated causing the cooling water to turn into steam and explode, rupturing the barriers and graphite reactor core.[3] This all led to a fire that demolished the reactor building. The reactors used in the power plant (RBMK reactors) did not have the proper containment structure, which is a dome meant to keep radiation in the plant, incase of any sort of accident. As a result radioactive elements such plutonium, iodine, strontium and caesium were dispersed in the atmosphere.[2] Part of the graphite core of the reactor had a meltdown, which also contributed to some of the emission of radioactive material. Many of the radioactive elements and materials that were in the atmosphere traveled through wind currents which exposed countries such as Belarus and even France, who were relatively far away from the explosion

Two Chernobyl plant workers died directly from the night of the explosion. 30 operators and firemen were killed in the span of three months; One person was killed from injuries received, and one person is reported to have died from coronary thrombosis. Acute radiation syndrome (ARS) was diagnosed in many onsite workers and 28 people died as a result of ARS within a few weeks of the accident. Furthermore, large areas of Belarus, Ukraine, Russia, and

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[1] The Editors of Encyclopaedia Britannica. "Chernobyl disaster | Causes, Effects, Deaths, Videos, Location, & Facts." *Britannica*, 31 March 2024, https://www.britannica.com/event/Chernobyl-disaster. Accessed 7 April 2024.
[2] International Atomic Energy Agency. "Frequently Asked Chernobyl Questions | IAEA." *International Atomic Energy Agency*, https://www.iaea.org/newscenter/focus/chernobyl/faqs. Accessed 7 April 2024.
[3] Nuclear Energy Agency. "Chernobyl: Chapter I. The site and accident sequence." *Nuclear Energy Agency*, https://www.oecd-nea.org/jcms/pl_28271/chernobyl-chapter-i-the-site-and-accident-sequence. Accessed 7 April 2024.

beyond were contaminated to varying degrees. An estimated 28 people died within the first few weeks as a result of acute radiation syndrome stemming from exposure to radionuclides such as Iodine-131. Iodine 131 exposure causes thyroid cancer which was seen in the aftermath of the explosion(15 people died). [3]

In order to try and keep as many people safe, the authorities evacuated around 115,000 people who were close to the reactor; they later relocated. After the explosion it was estimated that a total 220,000 people from Russia, Ukraine, and Belarus. This accident caused many social and psychological disruption amongst those who were affected by the explosion. In addition, there were many economic losses over the region affected by Chernobyl. [4]

In order to clean up the mess, emergency workers (liquidators) were drafted into the area in order to clean up the plant premises and the surrounding area. Many of these workers were either plant employees, fire-fighters, miners from across the world, and also some Soviet Union soldiers. It is estimated that 600,000 people were granted the status of "liquidator". Those who were drafted as liquidators, received special benefits because of their involvement, on- and off-site, in tackling the accident's aftermath. The job of the liquidators would vary, as some liquidators would be working on decontamination, and some would work major construction projects like making places for the evacuees to live, the  The construction workers would also built waste repositories, and water filtration systems in order to try and minimize excess radiation entering outside.

## Chernobyl Committee Background

The Chernobyl committee is a Crisis Committee that works to address and solve the effects of the Chernobyl Disaster. In addition, the committee should be able to come up with solutions for other possible nuclear disasters or to even prevent them from occurring at all.

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[3] World Nuclear Association. "Chernobyl | Chernobyl Accident | Chernobyl Disaster." *World Nuclear Association*, April 2022, https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/chernobyl-accident.aspx. Accessed 7 April 2024.

[4] United Nations. "Chernobyl Accident." *the UNSCEAR*, https://www.unscear.org/unscear/en/areas-of-work/chernobyl.html. Accessed 7 April 2024.

# Impacts After the Explosion

## Initial Reactions:

### Chernobyl and the USSR

Initially the workers inside of the plant and even the general public in the area didn't believe that a nuclear reactor could explode with many thinking it was just a water tank exploding. Several eye-witness reports stated they "saw half of the building gone and the reactor emitting a blue glow of ionized air." This ethereal blue beam was a result of atoms in the air being ionized rapidly; the ionization occurred due to the radioactive fuel being exposed to the open air after the explosion.[5] "After workers were sent to investigate what had happened did the workers understand what truly

[5] Kettley, Sebastian, and Lars de Geer. "Chernobyl: Was the blue beam of light at Chernobyl real - Chernobyl radiation explained | Science." *Daily Express*, 20 June 2019, https://www.express.co.uk/news/science/1142309/Chernobyl-disaster-blue-beam-of-light-HBO-Chernobyl-real-nuclear-radiation. Accessed 7 April 2024.

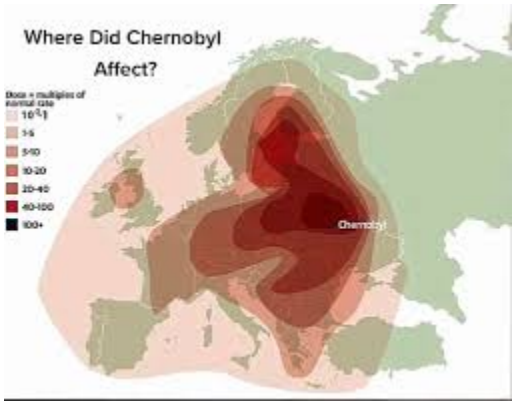
happened. The USSR withheld information from the public and even firefighters who started to put out the fires weren't told the true extent of what was happening and many of them even touched radioactive blocks and pieces from the reactor with their hands. Even the people who were told to evacuate were not told the full extent of the danger they were in; Soviet officials knew the true dangers but withheld the information from the public to prevent mass-panic and the West finding out. Eventually Swedish officials had detected unusually high levels of radiation coming from the Chernobyl region and sounded the alarm, forcing USSR officials to tell the truth. Almost 55 hours after the initial explosion did Soviet news issue an official report telling the world there was a disaster and affected people were treated. As a result of misinformation and lies over 150,000 elected abortions occurred with decades of fear instilled in people's minds.[6] Information being withheld was largely caused by the Soviet Union's Glasnost policy which had been used widely throughout the existence of the Union with many serious matters including natural and human-led disasters.[7]

## Foreign countries involvement with Chernobyl

On the second day of the disaster, Sweden detected high levels of radiation tracing back to the USSR and Chernobyl region leading to them concluding a disaster had occurred at Chernobyl. The countries hardest hit by the disaster were Belarus, Ukraine, Russia, and in smaller amounts Europe as a whole. Over a fourth of Belarus was covered by 70% of the radioactive fallout from Chernobyl and over one-fifth of the agricultural land in Belarus alongside at least 7-million people

[6] Herbert, Roy. "Chernobyl disaster: how the Soviet Union's cover story was blown." *New Scientist*, 23 April 1987, https://www.newscientist.com/article/2201677-chernobyl-disaster-how-the-soviet-unions-cover-story-was-blown/. Accessed 7 April 2024.
[7] Patel, Julie. "Chernobyl and USSR." *Keele University*, 22 July 2022, https://www.keele.ac.uk/extinction/controversy/chernobylandussr/. Accessed 7 April 2024.

were affected. The disaster had cost Belarus over 20% of its annual budget.[8] The heavier fallout materials fell over Ukraine, Belarus and Russia while the lighter materials fell over the greater part of Europe. Ukraine was hit hardest with the cities of Pripyat and Chernobyl both being located inside of Ukraine; from Pripyat over 47,000 inhabitants were evacuated in 1,200 buses and 200 trucks.[9] An exclusion zone with a 30 km diameter was set up encompassing large areas of Ukraine and Belarus with the zone eventually being opened in some areas to organized tours but even still over 150,000 square kilometers of Belarus, Ukraine and Russia are contaminated. In the exclusion zone, wildlife has flourished after a brief decline but with genetic mutations. A large number of the liquidators and firefighters who worked in Chernobyl were Ukrainian.[10] Eventually without Soviet endorsement, the UN and partners tried to figure out ways to provide emergency support consisting of assessing nuclear safety, environmental conditions, and diagnosing medical conditions. The UN also helped the public protect themselves from radionuclides in food and the environment. [11]




## Health Problems

The Chernobyl nuclear power plant was recorded as the largest uncontrolled radioactive release in history. There were an estimated 50 deaths that happened as a result of the disaster. From the disaster, there were many radiation effects that occurred, as a result of radiation escaping from the nuclear power plants after the explosion. Some of the health problems that came from the

[8] Hjelmgaard, Kim. "In secretive Belarus, Chernobyl's impact is breathtakingly grim." *USA Today*, 17 April 2016, https://www.usatoday.com/story/news/world/2016/04/17/belarus-border-town-chernobyl-30th-anniversary/82888796/. Accessed 7 April 2024.
[9] Learish, Jessica. "Chernobyl: Horrifying photos of Chernobyl nuclear plant accident and its aftermath." *CBS News*, 11 March 2022, https://www.cbsnews.com/pictures/horrifying-photos-of-chernobyl-and-its-aftermath/20/. Accessed 7 April 2024.
[10] International Atomic Energy Agency. "Frequently Asked Chernobyl Questions | IAEA." *International Atomic Energy Agency*, https://www.iaea.org/newscenter/focus/chernobyl/faqs. Accessed 7 April 2024.
[11] "Background | International Chernobyl Disaster Remembrance Day | United Nations." *The United Nations*, 26 April 2023, https://www.un.org/en/observances/chernobyl-remembrance-day/background. Accessed 7 April 2024.

explosion were ARS, Genetic Mutations of humans and animals, Thyroid cancer from Iodine-131, and others. These health effects were either immediate, or they can last up to years after the explosion. [12]

## ARS:

Acute Radiation Syndrome (ARS) is an acute illness caused by irradiation of most of the body. There would be a high amount of penetrating radiation in a very short period of time (normally in a few minutes). This happens when there is a depletion of stem cells in specific tissue In order to have acute radiation syndrome. In order to have Acute Radiation Syndrome (ARS), the radiation has to come from outside the body, and the radiation must be penetrating, meaning that it should be able to reach the internal organs. Examples of penetrating radiation are high energy X-rays, gamma rays, and neutrons. The three classic ARS Syndromes are: Bone marrow syndrome. Initially, the patient will have nausea, and vomiting, that may last minutes or several days. What makes ARS dangerous is that the patient looks and feels generally healthy for a few hours or even up to a few weeks. However, the circulatory system is slowly collapsing, and then the patients can suddenly die. If they dont die immediately, it is most likely that they will die several months later after exposure. An example of people who suffered from ARS are the survivors of the Hiroshima and Nagasaki atomic bombs. [13]

The Chernobyl accident resulted in almost one-third of the reported cases of acute radiation sickness (ARS) reported worldwide. Cases occurred among the plant employees and first responders, as they were exposed to more dangerous radiation over a quick period of time. However the evacuated

[12] "Health Effects of the Chernobyl Accident." *Canadian Nuclear Safety Commission*, March 2023, https://www.cnsc-ccsn.gc.ca/eng/resources/health/health-effects-chernobyl-accident/. Accessed 12 December 2024.
[13] National Center for Environmental Health (NCEH). "CDC Radiation Emergencies | Acute Radiation Syndrome: A Fact Sheet for Physicians." *Centers for Disease Control and Prevention*, 7 May 2019, https://www.cdc.gov/nceh/radiation/emergencies/arsphysicianfactsheet.htm. Accessed 7 April 2024.

populations or general population has not reported any . There were a confirmed 134 reported cases of people with AR. 28 of the people died quickly from ARS which was a result of bone marrow (The soft, spongy center of the bones is unable to produce enough healthy blood cells for an individual's needs).A bone marrow transplantation was performed on 13 patients yet all the patients dies, except for one individual, who later was discovered to have recovered his own marrow and rejected the transplant. [14]

## Genetic Mutations of Humans and Animals

A genetic mutation is a change in a sequence of your DNA. Normally, genetic mutations occur from errors in cell division. However, genetic mutations can also occur from exposure to radiation, which was seen in the Chernobyl Disaster. The energy from radiation can damage or break DNA molecules. If the damage is severe enough, cells can't replicate, or even be repaired. If DNA is unable to be repaired, a mutation can occur, which can negatively affect an animal's ability to reproduce. If a mutation occurs in gametes, it can result in a nonviable embryo or one with birth defects. In addition radioisotopes can also cause mutations in humans and animals, as some can be toxic and radioactive. In Chernobyl, radioisotopes such as cesium-137 and iodine-131 were accumulated in the food chain which therefore produce radiation exposure to people and animals, which in turn caused mutations. [15]

From the chernobyl disaster, there were some, but not many genetic mutations that occurred. Mutations did occur in plants and animals after the plant explosion. For example, leaves changed shape and some animals were born with physical deformities. Exposure to radioactive iodine 131 is also linked to mutations. Iodine 131 gives off radiation that breaks the chemical

[14] Gusev, Igor. "Health effects in those with acute radiation sickness from the Chernobyl accident." *PubMed*, November 2007, https://pubmed.ncbi.nlm.nih.gov/18049222/. Accessed 7 April 2024.
[15] Helmenstine, Anne Marie. "What We Know About the Chernobyl Animal Mutations." *ThoughtCo*, 18 July 2019, https://www.thoughtco.com/chernobyl-animal-mutations-4155348. Accessed 7 April 2024.

bonds in DNA, and mutations can form when the body attempts to repair these bonds. It is seen that tumors in those exposed to high radiation had more mutations arising. Which shows that radiation-related damage occurred early in the tumor's development, which caused some mutations in humans. [16]

## Thyroid Cancer and Iodine 131:

Thyroid cancer is a growth of cells that starts in the thyroid. The thyroid is a butterfly-shaped gland located at the base of the neck. The thyroid produces hormones that regulate heart rate, blood pressure, body temperature and weight. Initially, you may not see any symptoms of thyroid, but as it grows, some symptoms such as swelling in your neck, voice changes and difficulty swallowing will begin to show. Several types of thyroid cancer exist. Most types grow slowly, though some types can be very aggressive. Most thyroid cancers can be cured with treatment.[17]

Iodine 131 is used in medicine to diagnose and treat cancers of the thyroid gland. It is produced commercially for medical and industrial uses through nuclear fission. It also is a byproduct of nuclear fission processes in nuclear reactors and weapons testing. In medicine, I-131 is supplied in capsules or as a liquid. As a product of nuclear fission, it is a dark purple gas that can be inhaled, or absorbed through the skin. I-131 in fallout from nuclear weapons or reactor accidents can occur in particle form, which can be ingested in food or water.External exposure to large amounts of I-131 can cause burns to the eyes and on the skin. Internal exposure can affect the thyroid gland. This is because the thyroid gland uses iodine to produce thyroid hormones and the thyroid cannot distinguish between radioactive iodine and stable iodine. When I-131 is released into the atmosphere, it can be ingested in food products or water, or even breathing it in. If people receive internal exposure from iodine 131, the I-131 will be

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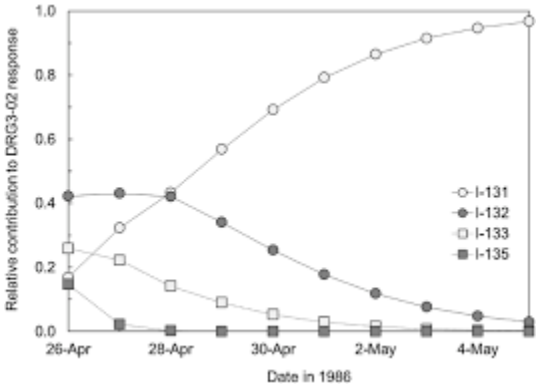
[16] Doctrow, Brian. "The genetic effects of Chernobyl radiation exposure." *National Institutes of Health (NIH)*, 4 May 2021, https://www.nih.gov/news-events/nih-research-matters/genetic-effects-chernobyl-radiation-exposure. Accessed 7 April 2024.

[17] Ryder, Mabel. "Thyroid cancer - Symptoms and causes." *Mayo Clinic*, 5 January 2024, https://www.mayoclinic.org/diseases-conditions/thyroid-cancer/symptoms-causes/syc-20354161. Accessed 7 April 2024.

absorbed by the thyroid gland, exposing it to radiation and potentially increasing the risk for thyroid cancer or other thyroid problems.[18]

Iodine 131 was one of the three main radionuclides that were exposed in the atmosphere from the incident. Those who were in the contaminated area from chernobyl were mostly affected from iodine 131. Cleanup workers and first responders were also heavily affected by the radiation. Finally, young children were among the population groups most affected by accidents as they consumed cow's milk contaminated with 131I. The major concern with the iodine 131 exposure, is that the thyroid glands of humans would absorb the radioactive iodine and absorb the thyroid cancer; to counteract this, medical officials administered regular iodine to the public in efforts to combat the collection of radioactive iodine in the thyroid gland.




## Reputation of Nuclear Power Plants:

After the disaster there was worldwide outcry against nuclear power after the disaster revealed the absolute worst that could occur. Thousands of protestors called for nuclear-power to be banned entirely with several countries including the Finnish and Dutch halting nuclear expansion programmes. Many other governments' political parties called for already active nuclear plants to be phased out entirely. However many powerful and wealthy countries have stated they plan on keeping nuclear power and expanding their nuclear programs even after seeing the disaster.[19] With proper construction and quality-control alongside proper guidelines

[18] "CDC Radiation Emergencies | Radioisotope Brief: Iodine-131 (I-131)." *Centers for Disease Control and Prevention*, 4 April 2018, https://www.cdc.gov/nceh/radiation/emergencies/isotopes/iodine.htm. Accessed 7 April 2024.
[19] Blix, Hans. "The post-Chernobyl outlook for nuclear power." *International Atomic Energy Agency*, 1986, https://www.iaea.org/sites/default/files/28304780912.pdf. Accessed 7 April 2024.

for personnel to operate the reactors a meltdown and disaster on the scale Chernobyl was at is highly unlikely as proven by over 400 nuclear reactors world-wide as of May 2023.[20]

## Effects on Reputation of USSR:

Chernobyl exposed the deep flaws and failures of the USSR which lead to cut-corners, miscommunication and education and the eventual downfall of the Union. Large amounts of civil projects in the USSR were constructed with material and equipment shortages, slack and loose construction standards and low labor morale. In fact, the RBMK reactors used in Chernobyl were made very cheaply and designed to use low-grade fuel with several fatal flaws in the design such as the graphite-tipped control rods which directly contributed to the disaster. Although the Boron in the control rods was designed to slow the reaction, graphite acted as an catalyst and when all the control rods were inserted to slow the reactor from blowing they instead made it explode faster by heating the water inside into steam almost immediately. [21] The disaster further showcased the neglect the USSR had for its workers and public in a pursuit of showing their power to the world with advancements in technology and society. The USSR had made these advancements at the cost of human lives and undermining their society. [22] The disaster had dealt a major blow to the Soviet reform programme known as "perestroika" and the continuing of May Day parades in Kyiv

[20] Jaganmohan, Madhumitha. "Nuclear power plants in the world 2023." *Statista*, 9 January 2024, https://www.statista.com/statistics/267158/number-of-nuclear-reactors-in-operation-by-country/. Accessed 7 April 2024.
[21] Rhodes, Richard. "Chernobyl | Nuclear Reaction | FRONTLINE." *PBS*, 1993, https://www.pbs.org/wgbh/pages/frontline/shows/reaction/readings/chernobyl.html. Accessed 7 April 2024.
[22] Kurylo, Bohdana. "The Role of Chernobyl in the Breakdown of the USSR." *Digital Commons@Georgia Southern*, 2016, https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1098&context=aujh. Accessed 7 April 2024.

pointed to an inability to lead and control the public. The disaster was the fatal crack that not only killed countless lives but also led to the demise of the Soviet Union.[23]

## What Has Been Done?

Following the disaster to prevent more radiation from spreading, a large concrete and metal sarcophagus was built around Reactor 4 to contain the structure and its radioactive materials. The exclusion zone still exists and will likely exist for the next 20,000 years but may slowly decrease in size as radioactive isotopes in the area decay. Many international and national programs have also been created to better procedures.

## Questions to Consider

- How can we address the possible use of nuclear power plants in committee?
- How can you come up with a solution to resolving the health issues?
- What impacts will the disaster have on different countries and people?
- How can we prevent further nuclear power plant explosions from happening again?
- Who is to blame for the explosion?

[23] Rodgers, James. "How The Chernobyl Nuclear Disaster Shaped Russia And Ukraine's Modern History." *Wikipedia*, 1 May 2021, https://www.forbes.com/sites/jamesrodgerseurope/2021/05/01/how-the-chernobyl-nuclear-disaster-shaped-russia-and-ukraines-modern-history/?sh=2b496426539a. Accessed 7 April 2024.

# Helpful Links

Chernobyl Accident 1986

Frequently Asked Chernobyl Questions | IAEA.

Health Effects of the Chernobyl Accident

Chernobyl's Legacy: Health, Environmental and Socio-Economic Impacts and Recommendations to the Governments of Belarus, Russian Federation and Ukraine

Assessments of the radiation effects from the Chernobyl nuclear reactor accident

Nuclear Energy Agency (NEA) - Chernobyl: Chapter V. Health impact

The genetic effects of Chernobyl radiation exposure

What We Know About the Chernobyl Animal Mutations

# POSITIONS

## Valery Legasov

Valery Legasov was the principal investigator of the Chernobyl Project. He was a Soviet inorganic Chemist and a member of the Academy of Sciences of the Soviet Union. Legasov is best remembered for his effort to contain the Chernobyl disaster

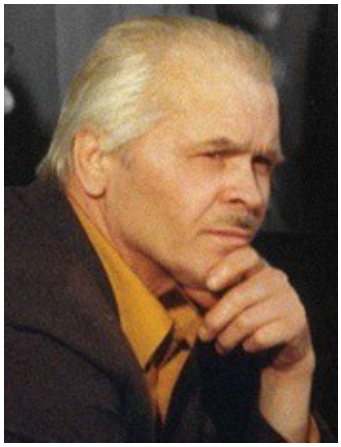
## Boris Shcherbina

Boris Shcherbina was the deputy chairman of the council of ministers of the Soviet Union from 1984 to 1989. During his time as chairman, Shcherbina supervised Soviet management of two major crises: The Chernobyl disaster and Armenian earthquake. He directly supervised the cleanup of Chernobyl and the evacuation of everyone from Pripyat.

## Viktor Bryukhanov

Viktor Bryukhanov was the overseer of Chernobyl at the time of the crisis. He was the manager of construction of the plant and its director from 1970 to 1986. He was charged with violating safety guidelines, creating conditions that lead to the explosion, and mismanagement by sending people into contaminated areas after knowing the dangers. He took the official blame for the disaster.

## Anthony Dyatlov



Anthony Dyatlov was the deputy chief engineer for Chernobyl at the time of the accident and made critical mistakes that contributed to the disaster. He did also play a significant role in developing new safety protocols and procedures to prevent accidents and protect workers. He was under pressure to complete the Chernobyl test quickly and as a result ignored warnings and went ahead with the test, contributing to the explosion that ensued. He worked tirelessly to try to contain the disaster and prevent further damage. His name is now synonymous with the disaster

## Mikhail Gorbachev

Mikhail Gorbachev was the president of the USSR at the time of the disaster and launched the Glasnost policy that proved flawed after the Chernobyl disaster. The policy of perestroika or reconstruction that he had implemented took a devastating blow after the disaster. The disaster contributed heavily to the downfall of the USSR and Gorbachev's policies.

## Viktor Chebrikov

Viktor Chebrikov was head of the KGB at the time of the Chernobyl disaster and dismantled CIA operative networks within the USSR. Chebrikov ordered that KGB resources be used to collect any information on speeding up the containment and cleanup effort of the disaster

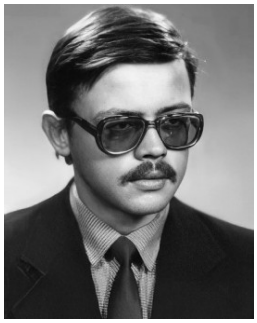
## Maria Protsenko

Maria Protsenko was chief architect of Pripyat and led the evacuation effort of the surrounding areas of Chernobyl. She was responsible for saving over 28,000 people in 3.5 hours. She was one of the last to leave the city and worked with the KGB to seal off Pripyat

## Mikhail Kovalev

Mikhail Kovalev was the President of Belarus during the Chernobyl Crisis. He was part of the Soviet government and hid information from the public about the dangers of the radioactive fallout from Chernobyl.

## Leonid Toptunov



Leonid Toptunov was in control of Reactor No. 4 on the night of the accident, and he worked with others such as Aleksandr Akimov. He was a senior reactor operator for 2 months, who was not aware of the design faults in the powerplant. Therefore he is blamed by many to be responsible for the accident.

## Alexander Akimov

Alexander Akimov was the director of the fatal test that had caused the Chernobyl disaster. He was the shift supervisor that was on duty at the time

of the disaster and was the one who signaled to a technician to press the AZ-5 button to stop the runaway nuclear reaction in the core of reactor 4. He worked with crew members to open water valves in efforts to cool the exposed reactor core and ended up succumbing to Acute Radiation Syndrome. He was awarded an Order For Courage of the 3rd degree in 2008 by Ukrainian President Viktor Yushchenko

## Oleksiy Ananenko

Alexei Ananeno was a Ukrainian mechanical engineer who worked at Chernobyl he was part of the Chernobyl Suicide Squad of divers who drained the steam surpression pool underneath the reactor number 4 building to prevent radioactive material from leeching into the groundwater and potentially affecting millions of people and kilometers of land. He was awarded the title Hero of Ukraine in 2019, him alongside the other two members of the suicide squad narrowly escaped ARS.

## Nikolay Antoshkin

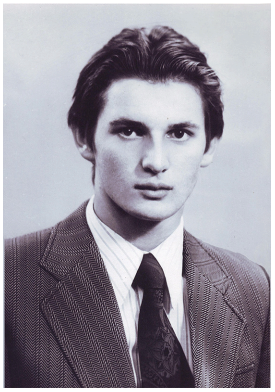
Nikolay Anthoshkin was a Soviet general and a Soviet politician. He was leader of the liquidators who were sent to the Chernobyl site to prevent the crisis from getting worse. He flew sorties himself into Chernobyl to try and prevent the further spread of radiation into the world. After his work at Chernobyl he served for 3 decades in the Russian Air Force and in the Russian Parliament.

## Lyudmila Ignatenko

Lyudmila Ignatenko was the wife of hero firefighter Vasily Ivanovich Ignatenko. She nursed her radioactive husband throughout his hospice despite the risks it posed for her and their unborn child. Their child ended up passing 2 hours after birth due to complications arising from potential radiation exposure. She was heavily criticized for staying with her husband despite the risks of radioactive poisoning.

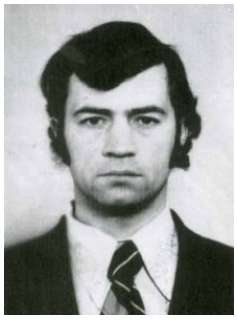
## Alexander Yuvchenko

Alexander Yuvchenko was a senior mechanical engineer at Chernobyl and was working when the disaster occurred. He was in his office at the time of the explosion and didn't imagine the reactor could've exploded like many working



there. He was told to bring stretchers to Control Room 3 for injured workers and ended up trying to turn on the water to flood the reactor 4 area. He held the door open for three of his friends to inspect the main reactor hall and survived solely because he didn't go inside. He did suffer from radiation sickness but survived.

## Valery Khodemchuk



Valery Khodemchuk was an engineer who was working as a circulating pump operator at the time of the explosion. He is thought of to be the first casualty of the disaster

## Nikolai Tarakanov

Nikolai Dmitrievich Tarakanov was a former Soviet military leader, doctor of technical sciences, and a member of the Presidium of the Russian Academy of Natural Sciences. He led a three-month operation to remove radioactive debris from the dangerous zones of the Chernobyl Nuclear Power Plant. He was heavily affected by the radiation exposure from Chernobyl to this day.

## Vladimir Shashenok

Vladimir Shashenok was the automatic systems adjuster at the time of the disaster. He was reporting the states of pressure gauges over the telephone. He received severe thermal and radiation burns across his body when an overpressure spike destroyed the isolation membranes and impulse pipes of the manometers in his instrument room; this explosion of the pipes led to the room flooding with boiling water and radioactive steam.

## Vyacheslav Brazhnik

Brazhnik was a senior turbine operator who ran to the control room to report fires in the turbine hall. They witnessed fires on all levels of the hall alongside broken pipes, roof debris and scattered pieces of reactor 4's graphite control rods and fuel. Brazhnik alongside others recovered Shashenok's body from his room.

## Nikolai Fomin

Was chief engineer of the Chernobyl Nuclear power plant alongside Anatoly Dyatlov. He was in charge of the plant's staff and had to deal with superiors and conflicting information on how bad the damage was. He too was charged with negligence of safety

guidelines and criminal negligence alongside Bryukhanov and Dyatlov.

## Mikhail Shchadov

Mikhail Shchado was a Russian engineer who served as the minister of the coal industry. During the disaster, he is called to send some of his men to assist the disaster. Throughout the disaster his team worked tirelessly, and they later launched a strike in 1989. He was fired from his job in 1991.

## Pavel Gremov

Pavel Gremov was one of the liquidators in Chernobyl. He called up the Soviet Government to help with the cleanup of the nuclear explosion. He volunteered himself to help with the cleanup of the radiation. He represents the liquidators, who faced extreme conditions through the disaster.

# Works Cited


"Background | International Chernobyl Disaster Remembrance Day | United Nations." *The United Nations*, 26 April 2023, https://www.un.org/en/observances/chernobyl-remembrance-day/background. Accessed 7 April 2024.

Blix, Hans. "The post-Chernobyl outlook for nuclear power." *International Atomic Energy Agency*, 1986, https://www.iaea.org/sites/default/files/28304780912.pdf. Accessed 7 April 2024.

"CDC Radiation Emergencies | Radioisotope Brief: Iodine-131 (I-131)." *Centers for Disease Control and Prevention*, 4 April 2018, https://www.cdc.gov/nceh/radiation/emergencies/isotopes/iodine.htm. Accessed 7 April 2024.

Doctrow, Brian. "The genetic effects of Chernobyl radiation exposure." *National Institutes of Health (NIH)*, 4 May 2021, https://www.nih.gov/news-events/nih-research-matters/genetic-effects-chernobyl-radiation-exposure. Accessed 7 April 2024.

The Editors of Encyclopaedia Britannica. "Chernobyl disaster | Causes, Effects, Deaths, Videos, Location, & Facts." *Britannica*, 31 March 2024, https://www.britannica.com/event/Chernobyl-disaster. Accessed 7 April 2024.

Gusev, Igor. "Health effects in those with acute radiation sickness from the Chernobyl accident." *PubMed*, November 2007, https://pubmed.ncbi.nlm.nih.gov/18049222/. Accessed 7 April 2024.

"Health Effects of the Chernobyl Accident." *Canadian Nuclear Safety Commission*, March 2023, https://www.cnsc-ccsn.gc.ca/eng/resources/health/health-effects-chernobyl-accident/. Accessed 12 December 2024.

Helmenstine, Anne Marie. "What We Know About the Chernobyl Animal Mutations." *ThoughtCo*, 18 July 2019, https://www.thoughtco.com/chernobyl-animal-mutations-4155348. Accessed 7 April 2024.

Herbert, Roy. "Chernobyl disaster: how the Soviet Union's cover story was blown." *New Scientist*, 23 April 1987, https://www.newscientist.com/article/2201677-chernobyl-disaster-how-the-soviet-unions-cover-story-was-blown/. Accessed 7 April 2024.

Hjelmgaard, Kim. "In secretive Belarus, Chernobyl's impact is breathtakingly grim." *USA Today*, 17 April 2016, https://www.usatoday.com/story/news/world/2016/04/17/belarus-border-town-chernobyl-30th-anniversary/82888796/. Accessed 7 April 2024.

International Atomic Energy Agency. "Frequently Asked Chernobyl Questions | IAEA." *International Atomic Energy Agency*, https://www.iaea.org/newscenter/focus/chernobyl/faqs. Accessed 7 April 2024.

Jaganmohan, Madhumitha. "Nuclear power plants in the world 2023." *Statista*, 9 January 2024, https://www.statista.com/statistics/267158/number-of-nuclear-reactors-in-operation-by-country/. Accessed 7 April 2024.

Kettley, Sebastian, and Lars de Geer. "Chernobyl: Was the blue beam of light at Chernobyl real - Chernobyl radiation explained | Science." *Daily Express*, 20 June 2019,

https://www.express.co.uk/news/science/1142309/Chernobyl-disaster-blue-beam-of-light-HBO-Chernobyl-real-nuclear-radiation. Accessed 7 April 2024.

Kurylo, Bohdana. “The Role of Chernobyl in the Breakdown of the USSR.” *Digital Commons@Georgia Southern*, 2016, https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1098&context=aujh. Accessed 7 April 2024.

Learish, Jessica. “Chernobyl: Horrifying photos of Chernobyl nuclear plant accident and its aftermath.” *CBS News*, 11 March 2022, https://www.cbsnews.com/pictures/horrifying-photos-of-chernobyl-and-its-aftermath/20/. Accessed 7 April 2024.

National Center for Environmental Health (NCEH). “CDC Radiation Emergencies | Acute Radiation Syndrome: A Fact Sheet for Physicians.” *Centers for Disease Control and Prevention*, 7 May 2019, https://www.cdc.gov/nceh/radiation/emergencies/arsphysicianfactsheet.htm. Accessed 7 April 2024.

Nuclear Energy Agency. “Chernobyl: Chapter I. The site and accident sequence.” *Nuclear Energy Agency*, https://www.oecd-nea.org/jcms/pl_28271/chernobyl-chapter-i-the-site-and-accident-sequence. Accessed 7 April 2024.

Patel, Julie. “Chernobyl and USSR.” *Keele University*, 22 July 2022, https://www.keele.ac.uk/extinction/controversy/chernobylandussr/. Accessed 7 April 2024.

Rhodes, Richard. “Chernobyl | Nuclear Reaction | FRONTLINE.” *PBS*, 1993, https://www.pbs.org/wgbh/pages/frontline/shows/reaction/readings/chernobyl.html. Accessed 7 April 2024.

Rodgers, James. “How The Chernobyl Nuclear Disaster Shaped Russia And Ukraine’s Modern History.” *Wikipedia*, 1 May 2021, https://www.forbes.com/sites/jamesrodgerseurope/2021/05/01/how-the-chernobyl-nuclear-disaster-shaped-russia-and-ukraines-modern-history/?sh=2b496426539a. Accessed 7 April 2024.

Ryder, Mabel. “Thyroid cancer - Symptoms and causes.” *Mayo Clinic*, 5 January 2024, https://www.mayoclinic.org/diseases-conditions/thyroid-cancer/symptoms-causes/syc-20354161. Accessed 7 April 2024.

United Nations. “Chernobyl Accident.” *the UNSCEAR*, https://www.unscear.org/unscear/en/areas-of-work/chernobyl.html. Accessed 7 April 2024.

World Nuclear Association. “Chernobyl | Chernobyl Accident | Chernobyl Disaster.” *World Nuclear Association*, April 2022, https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/chernobyl-accident.aspx.

Accessed 7 April 2024.