

The *Chernobyl* disaster: Implications for the Soviet Union and *glasnost*

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Research strategy essay

My research focused on the origins and development of the Soviet nuclear power industry, how the Soviet Union's political climate in the 1980's shaped the reaction to the Chernobyl nuclear disaster and how environmental and political policy shifted in the aftermath of the disaster. To explore this topic, I utilized primary sources such as government documents, speeches, and firsthand accounts. I used mostly secondary sources to discuss the history of the nuclear industry. I relied mainly on government documents to detail problems with infrastructure. I obtained these documents from a collection in Goucher's library, Revelations from the Russian Archives: Documents in English Translation. This volume was very useful, since it contained several previously secret Soviet documents. By using the information in these documents, I was able to find out what information the government was holding back.

To write about the accident and its immediate aftermath, I relied heavily on another book I found in the Goucher library called Chernobyl: A Documentary Story, by Iurii Shcherbak. This is a collection of interviews with those who responded to the accident and workers and residents of Chernobyl and the nearby city of Prypyat. In the second section of my paper, I link these stories together with supplemental information received from other sources to piece together how citizens initially responded to the disaster.

This paper was great practice in taking copious notes, and then arranging those notes in a sensible way, which required editing of the research that I found. I also learned

how to pick the most compelling quotes to use, and how to weave these individual stories together to form an anecdotal account of an event whose legacy lives on in primary sources.

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When Pennsylvania's Three Mile Island had a meltdown a few years before Chernobyl, the Soviet Union kept strangely quiet about it. They could have spun this American tragedy into a narrative about how capitalism is heartless, disregards safety, or fails to value its citizens. It was a great opportunity to demonize the West. Soviet leaders left it alone, however, since they did not want to smother enthusiasm for their own burgeoning nuclear energy industry. In the 1980s, the Soviet Union was operating 43 nuclear power plants, with 36 under construction and 34 in planning stages.¹ Nuclear energy was the way forward, creating the backbone of the Eleventh Five Year Plan that ran from 1981-1985. With an eye on the benefits of developing atomic energy, the safety risks were not considered. As Ukraine's Minister of Power and Electrification, Vitalii Shliarov, said in February 1986, "the odds of a meltdown are one in 10,000 years."²

That statistic was proven wrong on April 26, 1986, when a reactor at the Lenin Nuclear Power Station at Chernobyl exploded, blowing a hole in the building that contained it. Radiation immediately contaminated air and water in the area of nearby Prypyat and the village of Chernobyl. Over time, these pollutants traveled mainly northeast into Belorussia and parts of Russia, bringing highly contaminated water, radioactive land, and immediate and future sickness and death and future crippling birth defects to these areas. By looking at the environmental and health effects of the accident at Chernobyl, one can conclude that such a tragedy could strike anywhere. It is true that

¹ David R. Marples, *The Social Impact of the Chernobyl Disaster*, (New York: St. Martin's Press, 1988) 3.

² Maksim Rylskii, "The Nuclear Power Industry in the Ukraine," *Soviet Life* Feb. 1986: 8-13.

if plutonium and cesium-137, two highly dangerous and enduring radioactive substances created by nuclear energy production, were released into any ecosystem, the potential effects would be much the same. But societal and governmental changes occurring in the mid-1980s in the Soviet Union influenced how the government operated in its time of crisis, which makes this accident unique to its specific time and place. General Secretary Mikhail Gorbachev had recently adopted the policy of *glasnost*, intended to foster a more educated, freer dialogue within society through more transparent media and government outlets. *Glasnost* was severely tested by events at Chernobyl, with many past and present-day critics contending that Chernobyl represented the greatest failure of *glasnost*. But a failed policy is not a tragedy by itself. The real tragedy is that, had the Soviet government adhered to the tenets of this policy, fewer lives would have been lost. With improved government transparency, communication and honesty, more citizens could have been spared in the days following the accident, when radiation was most concentrated and therefore deadliest. Looking at the history of the nuclear industry in the Soviet Union, however, the goals of openness and restructuring were very hard to achieve overnight.

Part I: Before Chernobyl, 1942-1986

When nuclear power was becoming visible in the Soviet Union in the mid 1970s, it was viewed as the light at the end of a dark tunnel, one good outcome of a mutually alarming arms race between the United States and the Soviet Union. The Soviet Union began to build a nuclear arsenal during World War II, when a young physicist sent a frantic letter to General Secretary Joseph Stalin, explaining that the Americans were secretly developing nuclear weapons. Almost overnight, the development of nuclear

arms became the Soviet Union's top priority. Stalin immediately started a classified project to develop an atomic bomb with physicist Igor Kurchatov as the leader. Seven years after launching the program, Kurchatov's team successfully exploded their first nuclear weapon in 1949. For this accomplishment, Stalin hailed Kurchatov as a hero, awarding him the first ever Order of Lenin, giving him a vacation home in Crimea, and naming a scientific academy after him.³ Kurchatov seemed pleased with his own personal success and the success of his program, but could not help looking to the future. Shortly after the bomb was exploded, he remarked, "Now, we have our atomic sword and can start thinking about peaceful uses for the atom."⁴

Stalin echoed these sentiments, commissioning the first atomic power station in 1949. Though he did not live to see the station running, his successor Nikita Khrushchev supported the project and it began producing electricity in June of 1954. Nuclear power gained support as an energy source for many reasons. Though the Soviet Union was bestowed with vast reserves of coal, oil, and natural gas, these resources were located deep in Siberia, thousands of miles away from major population centers. Supplying coal to these cities would overwhelm train lines, and transportation itself would be energy intensive. Gas and oil could be piped through the countryside, but these resources held more value when exported and sold on the world market.⁵ Nuclear seemed to be the only other option.

Supplying satellite states in Eastern Europe with electricity held vast ideological importance for the Soviet Union as well. The Soviet government wanted the workers in

³ Piers Paul Reed, *Ablaze: The Story of the Heroes and Victims of Chernobyl*, (New York: Random House, 1993) 5.

⁴ Reed, *Ablaze*, 7.

⁵ Reed, *Ablaze*, 21.

these states to be content with their role as part of the Soviet Union, and supplying these populations with electricity was one way to improve their quality of life.

Despite the promises of nuclear energy, members of the Central Committee in the early 1960s were wary of adopting nuclear energy on a large scale, citing high cost and technical complexity. Kurchatov was present and responded to this criticism with an impassioned speech, convincing the Committee that the Soviet Union needed to prove to itself and to the world that it could keep up with the technological innovations of the “decaying, capitalist West.”⁶ He made the argument that the Soviet Union should lead the world in scientific discovery, and that developing nuclear energy would fulfill this need. He wanted the Soviet people and leaders to be able to put their faith in science and engineers. In the end, Kurchatov got his way, and subsequent leaders of the Soviet Union expanded the nuclear program. In 1980, General Secretary Leonid Brezhnev made the “substantial expansion of atomic power” the driving force behind the Eleventh Five Year Plan.⁷ One year later, former KGB chief Yuri Andropov succeeded Brezhnev as General Secretary, with the firm belief that “the future of our power industry lies first and foremost in the use of the latest nuclear reactors.”⁸

Throughout the debate, safety was never a big issue, but policymakers were not getting the whole story. There were only a few functioning uranium enrichment plants and prototype nuclear power plants in existence at the time, but a number of accidents had already occurred. The KGB had kept these accidents a secret, despite lasting effects on the land and populations surrounding these sites.

⁶ Reed, Ablaze, 10.

⁷ Reed, Ablaze, 22.

⁸ Reed, Ablaze, 22.

In the late 1950s, a plant at Mayak, in the Sverdlovsk province, was leaking radioactive waste. This caused an explosion that released two million curies into the air and required an evacuation of 10,000 people. Radiation rained down on 250,000 acres of agricultural land, laying it to waste. Later, radioactive waste was dumped into the nearby Techa River, and in a separate incident, radioactive waste stored in an uncovered, artificial lake was carried to surrounding areas by a tornado.⁹ These stories never left their respective towns, which were closed off to the rest of the world by geography, by barbed wire fences, and by KGB troops patrolling the borders, making sure no information escaped.

Later, in the 1980s, General Secretary Mikhail Gorbachev would say that physicists and engineers “realize, perhaps better than anyone else, the dangers of the atom.”¹⁰ Nikolai Dollezhal, an engineer of the plant at Mayak, was one of only a handful of people who knew about these accidents, and his actions suggest that he felt a responsibility to inform society of the dangers of nuclear power. In 1979, he was quoted in the Soviet magazine *Kommunist* saying that the disposal of nuclear wastes remained “a major problem... This is why places for the regeneration of nuclear fuel are located far away from industrial areas and populated settlements.”¹¹ This statement is the closest thing to criticism of the budding nuclear industry that the state allowed, until Chernobyl.

These examples paint the political backdrop under which the Chernobyl plant was commissioned. The mood in the Soviet Union was one of enthusiasm for scientific discovery and progress and a desire to outpace other technologically advanced countries.

⁹ Reed, *Ablaze*, 10.

¹⁰ Mikhail Gorbachev, *Perestroika: New Thinking for Our Country and the World*, (New York: Harper & Roe, 1987) 215.

¹¹ Reed, *Ablaze*, 20.

There was also the tendency to repress any information that ran counter to this idea or suggested that human or engineering errors had been made. Focusing on progress, energy independence, and rapid results, the nuclear power plant at Chernobyl was commissioned in the mid 1960s.

The KGB kept a close eye on the first nuclear power plants, Chernobyl included, since the developing technology was considered classified information. After the structure was completed, however, it did not stay a secret for much longer. When it first began running in 1977, it was an overwhelming source of pride and accomplishment for the Soviet Union, since the plant embodied its practical and ideological purposes well. Situated about 65 miles north of Kiev, close to the Belorussian border, it could bring electricity to large cities and help to modernize rural areas in the East European satellite states, improving their quality of life by bringing new industry to the area.¹² Though only four reactors were built at the Chernobyl plant, six had been planned, which would have made the V.I. Lenin Nuclear Power Station at Chernobyl the largest nuclear power plant in the world. This prestige was appealing to a young generation of scientists, who flocked to Chernobyl to take advantage of opportunities for lucrative careers.

The town of Chernobyl and of nearby Prypyat were both very small before the plant was built. Population grew quickly once the area was picked for a nuclear power plant, with many Chernobyl workers choosing to reside in Prypyat. Prypyat needed to be expanded and renovated, not only to accommodate more people but to make the town suitable for such a prestigious structure and representative of the Soviet lifestyle that the government wanted to project. A periodical called *Soviet Life* ran an article about Prypyat

¹² Marples, Social Impact..., 3.

two months before the explosion in 1986. *Soviet Life* was written in English and could be found in the United States, so this article is a good indicator of the image that the Soviet government wanted their nuclear industry to have abroad. The article describes Prypyat before its expansion as nothing but “sands, forests and water meadows.”¹³ It goes on to describe a lively, civilized and growing community. Blocks of high-rise apartment buildings stood among pine groves, and beds of roses lined the streets. There were a number of schools, shopping centers, sports facilities, libraries, playgrounds, even an amusement park, all to accommodate the baby boom that Prypyat was experiencing. Prypyat was a young city, with an average age of only 26.¹⁴ The residents of Prypyat were proud to live in what they considered a progressive place. The opportunities in the nuclear industry drew over 30 nationalities from all over the Soviet Union. Party officials had wanted the plant at Chernobyl and Prypyat to be held up internationally as a success story of Soviet technology, social equality, opportunity and modernity, all of which was evident from the outside looking in.

The *Soviet Life* article leads the audience to believe that most residents of Prypyat and Chernobyl were not concerned whatsoever with the safety of the nuclear power plant looming in the distance. One Chernobyl steam turbine operator and engineering graduate believed that most fears surrounding nuclear energy were unfounded. This worker felt safe because of the plant’s built-in radiation sensors, and because it seemed to be clean and running smoothly: “The air is clean and fresh; it’s filtered most carefully.”¹⁵ *Soviet Life* cites preliminary radiation monitoring data, taken by construction workers at the

¹³ Rylskii, “The Nuclear Power Industry...”

¹⁴ Rylskii, “The Nuclear Power Industry...”

¹⁵ Rylskii, “The Nuclear Power Industry...”

plant, to prove that “the reactors have in no way affected the health of the environment.” The threat of a nuclear accident is mentioned several times in this article, but each time it is dismissed as impossible, citing infallible safety features and radiation monitoring. Chernobyl’s chief engineer, Nikolai Fomin, pointed to the plant’s automatic control and safety systems that would shut down the plant immediately “even if the incredible should happen.”¹⁶ By addressing critics’ worst fears and then describing measures taken to counter those dangers, *Soviet Life* sought to nullify many of the arguments against nuclear power.

The man in charge of transforming Prypyat and Chernobyl from small towns into exemplary Soviet communities was Viktor Brukhanov, who moved there in 1970 to oversee the expansion of the towns. As if this responsibility was not enough, he was also the director of the nuclear power plant, so he needed to supervise its construction as well. The towns of Prypyat and Chernobyl were built more quickly than the power plant, since they did not demand the same degree of technical expertise and because the construction workers and engineers needed comfortable lodgings. This massive building project overwhelmed the resources available and pushed the completion of the first reactor into 1977, two years behind schedule.

Another large problem with construction of the plant was that even though highly educated engineers designed the plant, the sites lacked the supplies needed to complete construction according to the specifications. Several nuclear energy stations were being built in various locations within the Soviet Union, but the production of the necessary equipment had not kept pace with the increased demand. Brukhanov was under pressure

¹⁶ Rylskii, “The Nuclear Power Industry...”

from party officials to finish the plant on time, in order to prove the Soviet Union's technical competence, so he felt he had no choice but to manufacture missing components on site. Workers who were not properly trained found themselves needing to make building components out of materials that did not necessarily meet the design requirements.¹⁷ A lack of materials and the need for improvisation were not entirely foreign in Soviet engineering at the time. Engineering nuclear power plants, however, was not nearly as flexible as previous projects that the Soviet Union had undertaken, and engineering flaws would have much more dangerous consequences. Gorbachev remarked in the 1980's that Soviet history had been plagued by "costly projects that never lived up to the highest scientific and technological standards."¹⁸

Previously confidential Soviet documents show that the Central Committee was well aware that construction was not being carried out according to design. The KGB, in charge of supervising construction, sent progress reports to the Central Committee, and in 1979, sent one report warning them that these "design deviations and violations of construction and assembly technology... could lead to mishaps and accidents."¹⁹ This report singles out uneven foundations, damaged water proofing layers that could cause leakage, and building components that were installed backwards, sideways, or were missing altogether. The report ends by blaming these leadership and construction mistakes for causing the plant to fall so far behind schedule. A follow up document from

¹⁷ Reed, Ablaze, 30.

¹⁸ Gorbachev, Perestroika, 5.

¹⁹ Yuri Andropov, "KGB memorandum from Andropov to the Central Committee, February 21, 1979, on construction flaws at the Chernobyl nuclear power plant," Revelations from the Russian Archives: Documents in English Translation, ed. Diane P Koenker and Ronald D Bachman (Washington: Library of Congress, 1997) 500.

the USSR's Deputy Minister of Power and Electrification, P.P. Falaeev, acknowledges these "design deviations" and seeks to reassure the Central Committee that his ministry has taken care of these problems, by looking at each problem separately and engineering a specific solution for each. There is no mention of the unstable foundation, which seems to be the most difficult problem to fix. The Ministry set a "rigid timetable" for the implementation of these corrections. This turned out to be a poor choice, since feeling rushed to finish the project led to these construction issues in the first place.²⁰

The information in these internal reports could have been helpful in avoiding problems in the construction of other plants. The same could be said for relatively small scale accidents at other plants with designs identical to Chernobyl that were still being kept a secret from the outside world. A reactor at a plant in Leningrad partially melted down, while a fire tore through a control cable at a plant in Beloyarsk, causing the plant operators to momentarily lose control of the reactor.²¹ These accidents did not help advance the image of technological superiority that the Soviets were striving for, so it is not very surprising that they were kept a secret. Instead, engineers placed utmost faith in the safety systems that were supposed to prevent accidents, even if they had secretly failed before. The fact that these accidents were not made public, even to others in the nuclear industry, hampered the safe development of additional plants, since engineers could not learn from other's mistakes.

Part II: Gorbachev's policy of perestroika and glasnost, February 1986

²⁰ P.P. Falaeev, "On checking the structural condition of the first unit of the Chernobyl AES," Revelations from the Russian Archives: Documents in English Translation, ed. Diane P Koenker and Ronald D Bachman (Washington: Library of Congress, 1997) 501.

²¹ Reed, Ablaze, 41.

When Mikhail Gorbachev became General Secretary of the Communist Party in 1985, he believed that Soviet “society [was] ripe for change.”²² He describes his outlook and his reasoning for his policy of *perestroika*, translated as restructuring, in a book that he wrote of the same name. In simple terms, *perestroika* was “largely stimulated by our dissatisfaction with the way things have been going [in the Soviet Union] in recent years,”²³ a sentiment shared at the 1985 Plenary Meeting of the Central Committee, where the policy was born. *Perestroika* was meant to overhaul the working of the state. The application of such a policy would come in many forms, among them a faith in the scientific process, awareness of political conscience, and a democratization of society, to fix what he viewed as the decaying morality of Soviet culture as a whole. Gorbachev believed that socialism had lost its focus on the workers and that in recent generations, “there was no effective effort to bar dishonest, pushy, self-seeking people” and as a result, “society was becoming increasingly unmanageable.”²⁴ Gorbachev believed that Soviet society needed more leaders who were true to Lenin’s ideal of a revolutionary Bolshevik, seeking to blend old socialist directions with new technological advances in a thoroughly modern society. He thought that these ends could be met within the socialist system. Even so, this policy won him major acclaim in the West, especially from the United States. After reading Gorbachev’s book explaining *perestroika*, American ambassador to the Soviet Union, George F. Kennan, remarked, “This is an age of change; and Gorbachev has made himself its angel and its instrument.”²⁵

²² Gorbachev, *Perestroika*, 3.

²³ Gorbachev, *Perestroika*, xiii.

²⁴ Gorbachev, *Perestroika*, 9.

²⁵ Gorbachev, *Perestroika*, cover. Since this quote graces the cover, Kennan was most likely paid to say this, which casts doubt over the authenticity of the quote. Regardless of

Gorbachev sums up another aspect of *perestroika* in the following way:

“*Perestroika* also means a resolute and radical elimination of obstacles hindering social and economic development, of outdated methods of managing the economy and of dogmatic stereotype mentality.”²⁶ Central to achieving these and other goals of *perestroika* was a complementary policy of *glasnost*, or openness. *Glasnost* was meant to foster openness in the media, government management, public affairs, and ways of life. The problems plaguing the development of nuclear energy stemmed at least partially from secrecy in the aim of smothering any anti-nuclear sentiments. Gorbachev realized the value of plurality of voices and dialogue as a way to correct various shortcomings and to inspire the democratic society he envisioned: “We won’t be able to advance if we don’t check how our policy responds to criticism, especially criticism from below...I cannot imagine democracy without this.”²⁷

Perestroika and *glasnost* were officially adopted as policy in February 1986. Only two months later, Gorbachev’s beliefs about *glasnost* would be tested. The flow of information, or lack thereof, and the inner workings of government agencies were well established from decades of practice and specialization. Breaking these habits would prove to be nearly impossible in the short term, when the Soviet, Ukrainian, and Belorussian people needed the transparency of *glasnost* the most.

The accident at Chernobyl can be viewed either as a great failure of *glasnost* or a great boon to *glasnost*. Even though Gorbachev and most government agencies tried to keep this accident a secret, like so many others before them, they quickly found it to be

whether or not he personally felt this way, this quote represents how Kennan wished Western society would view Gorbachev.

²⁶ Gorbachev, *Perestroika*, 38.

²⁷ Gorbachev, *Perestroika*, 64.

impossible. In the long run, Chernobyl drew attention to *glasnost*, underscoring the need for greater government responsibility and accountability.

Glasnost had a shifting, ever-progressing nature that made a rigid definition impossible. According to Gorbachev, “our notions about the contents, methods and forms of perestroika will be developed, clarified, and corrected later on. This is inevitable and natural. This is a living process.”²⁸ Gorbachev saw the need for and truly wanted to achieve far-reaching changes within Soviet society and realized that *glasnost* could be unpredictable. This policy was meant to develop and change depending on what Soviet society was like at the moment. Observed through this lens, *glasnost* worked just as it was supposed to.

Part III: The explosion and evacuation, April 26 to May 14, 1986

Beginning 1:21 A.M. on April 26, 1986, many things happened in quick succession that would forever change the physical and political landscape of the Eastern bloc of the Soviet Union. First, 28-year-old emergency room doctor Valentyn Petrovich Bilokin witnessed something that he could not comprehend:

So when we were returning to the hospital – I was with the driver Anatolii Gumarov, an Ossete, about thirty years old, we saw that. What was it like? We were driving along at night, the town was empty, asleep, and I was sitting next to the driver. I saw two flashes to the side of Prypyat; at first we didn’t realize that they came from the nuclear power station. We were driving along Kurchatov Street when we saw the flashes. We thought they were shooting stars. Since there were buildings all around, we could not see the nuclear power station. Just flashes. Like lightning, perhaps, a little bigger than lightning. We didn’t hear any thunder. The motor was running. Later at the block they told us that it had really boomed. And our controller heard the explosion. One, then a second one straight afterward. And Anatolii said: “Shooting stars or not shooting stars, I just don’t understand.”²⁹

²⁸ Gorbachev, *Perestroika*, 20.

²⁹ Iurii Shcherbak, *Chernobyl: A Documentary Story* (New York: St. Martin’s Press, 1989) 40.

At that very same moment, an engineer at the nuclear power plant had only a slightly better idea of what had happened. Iurii Iurievich Badaev was working in the SKALA, which he described as “the brain, the eyes and the ears of the station.”³⁰ That night he was in charge of monitoring safety experiments being conducted on reactor number 4:

What happened was very simple. There was an explosion. I was on shift forty metres from the reactor. We knew there were experiments going on... We were watching over how the reactor was working. Everything was fine. Then a signal came which meant that the senior reactor engineer had pressed the button to switch the reactor totally off. Literally fifteen seconds later there was a sudden shock, and a few seconds later a stronger shock. The light went out and our machine cut out.³¹

Badaev struggled to maintain the computer system, since he said that without it the operators and workers at the plant were helpless and lost, “like blind kittens.”³² An emergency power supply kicked in to power the computers, but Badaev and his team were confused by the readings they were seeing regarding electricity and radiation levels:

It was only then that we asked ourselves: what on earth has happened? We needed to take a look. And when we opened the doors, we could see nothing but steam and dust and the like... Then we learned the extent of the accident. I really had to convince myself of this. Literally a few minutes before the accident Shashenok had called on us. He was one of those two fellows who died. We chatted with him...to get something clear...[After the shock] when we had already saved our equipment, a call came from that room where Shashenok had been working. A continuous call. We took the receiver; no one answered. He had been crushed; he had broken ribs and his spine was twisted. Nevertheless, I tried to break through to him, I thought that he perhaps needed help. But they had already got him out. I saw them carrying him out on a stretcher.³³

³⁰ Shcherbak, Chernobyl, 24. Though I quote Shcherbak extensively in the next few pages, each account is from a different person.

³¹ Shcherbak, Chernobyl, 24.

³² Shcherbak, Chernobyl, 24.

³³ Shcherbak, Chernobyl, 24-25.

This worker, Shashenok, had been injured by the most destructive nuclear accident ever in the Soviet Union. Ironically initiated by a safety test, it was not a nuclear meltdown, but an explosion due to skyrocketing power levels that overwhelmed the station's fourth reactor. The building collapsed under the force of the explosion and burning fragments flew into the atmosphere, starting thirty fires on the roofs of adjacent buildings housing other reactors and turbines.³⁴ The first aim of the plant operators and engineers was to get the fires under control. They initially ignored the fact that fifty million curies of radioactive materials were released into the atmosphere. The first people to be called to the scene of the accident were not given any warnings or equipment to protect themselves from these dangerous substances. Uninformed about the radiation, Hyhorii Matviiiovych Khmel was the driver of one of the fire engines that responded and he spent several hours fighting to put the fires out. No one in his brigade had a clear idea of what had happened:

We drove up. As soon as we were there, at the power station administration building, we could immediately see the flames. It was like a cloud, with red flames... We didn't have much idea about radiation. Whoever was working didn't have any idea.³⁵

Bilokin, the doctor already quoted, had a similar experience. He was utterly unprepared for entering a radioactive environment when he arrived at the plant:

How was I to have known that special clothing was necessary? I had no information. I was wearing my doctor's smock, it was an April evening, a warm night, I didn't have a cap, nothing... We had no dosimeters. We were told there were gas masks and protective suits, but there wasn't anything of the sort.³⁶

³⁴ Henry N. Wagner, Jr and Linda E. Ketchum, Living with Radiation: The Risk, the Promise, (Baltimore: Johns Hopkins University Press, 1989) 111.

³⁵ Shcherbak, Chernobyl, 32-33.

³⁶ Shcherbak, Chernobyl, 41-42.

That a medical doctor should be ignorant about the dangers of radiation, especially at the site of a nuclear power plant, shows just how determined the government was to push this nuclear agenda at all costs, even to the extent of denying doctors the most basic training about radiation.

Hopelessly unprepared and shocked by the unexpected situation, local leaders hastily wrote a top secret report to the Central Committee, to see if a higher governmental body would know how to react. A.N. Makukhin, the first deputy Minister of Energy and Electrification of the USSR, described in this initial report what happened, using the limited information available at the time. Makukhin writes that, “in the explosion the roof, part of the wall panels of the reactor compartment, several roof panels of the generator room, and the reactor compartment’s auxiliary systems block collapsed, and also the roofing caught fire.”³⁷ All of these components were singled out by earlier secret reports as having had construction flaws, which contributed to their ultimate failure under pressure. Afraid to act without permission from the Central Committee, Makukhin also writes that, “in the opinion of Main Administration 3 of the USSR Ministry of Health, implementation of special measures, including evacuation of the city’s population, is not necessary.”³⁸ This line eliminates a lot of urgency from the report. The nonchalance of this statement reflects upon Makukhin’s desire to show his competence to the Central Committee at the expense of ignoring the truth. He says that, “measures are being taken

³⁷ A.K. Makukhin, “Urgent report on the Chernobyl accident from the first deputy minister of energy and electrification, April 26, 1986,” Revelations from the Russian Archives: Documents in English Translation, eds. Diane P Koenker and Ronald D Bachman (Washington: Library of Congress, 1997) 503.

³⁸ Makukhin, “Urgent Report...”, 503.

to remove the aftereffects and to investigate the accident.”³⁹ According to this report, there was an explosion but everything was under control.

There was clearly no plan for dealing with an emergency of this sort. Residents and engineers of Chernobyl and Prypyat had utmost faith in the safety systems, which rendered an emergency response plan unnecessary. The confusion and initial suppression of information seen in the hours following the explosion is socially very significant. The Soviet Union was trying to build a strong new future for their society through commitment to nuclear power and the “acceleration of scientific and technological progress.”⁴⁰ To admit that this technology had backfired and was now endangering the lives and health of people in an important region would rip the new foundation out from under them. Engineers and Town Council leaders did not know what to do. They did not want to act without permission from the Central Committee. In the meantime, evidence was being stacked against them, as the effects of radiation were beginning to take hold. The truth was becoming clearer.

The effects of radiation sickness were almost immediately evident. Reports of firefighters and doctors who responded to the accident vomiting, stumbling and slurring their words and feeling dizzy, confused, pale are numerous.⁴¹ Bilokin spoke of people feeling ashamed: “People just didn’t fully realize what had happened.”⁴² In the week after the explosion, 299 patients were taken to clinics and diagnosed with acute radiation sickness. While a safe exposure limit shouldn’t exceed 50 rems throughout the course of ones life, these patients had been exposed to anywhere from 200-1600 rems over just a

³⁹ Makukhin, “Urgent Report...”, 503.

⁴⁰ Gorbachev, Perestroika, 13.

⁴¹ Shcherbak, Chernobyl, 43.

⁴² Shcherbak, Chernobyl, 44.

few days.⁴³ Many of these patients died soon thereafter. In the coming weeks, months, and years, the radiation hung in the atmosphere and drifted on wind currents into other parts of Ukraine and Russia, with most of the fallout landing in Belorussia. An area extending 30 kilometers in all directions from the plant was established as a wasteland and has no inhabitants. But the fallout reached additional areas where no evacuation was deemed necessary. These contaminated areas are home to five million people, who since the 1980's have experienced thyroid disease, cardiovascular disease, cataractogenesis, leukemia and other cancers at significantly higher levels than surrounding regions that are free of contamination.⁴⁴ But all these problems were to come. The day of the accident, a handful of emergency workers had been transported to a hospital, but their malaise was not attributed to radiation poisoning until much later.

Before most Prypyat and Chernobyl residents were awake, V. Malomuzh, the second secretary of the Kiev Oblast Communist Party, made a fateful decision. The Central Committee had not yet responded to the emergency memo written hours after the accident, so Malomuzh was forced to act on his own. He ordered the local government to keep quiet so life could continue as usual in the town: children were to go to school, shops would be open for business, weddings would take place. He didn't want to disrupt normal life for what he hoped would be a negligible situation, but Ukrainian Minister of the Environment Iurii Shcherbak questions why such a decision was made, despite an apparent lack of information:

⁴³ Marples, Social Impact..., 32.

⁴⁴ Burton Bennett et al. "Health Effects of the Chernobyl Accident and Special Health Care Programmes: Report of the UN Chernobyl Forum Expert Group," World Health Organization, Geneva, 2006, 10.

To all the perplexed questions there was one answer: that's how it has to be. For whom? And in whose name? Let's discuss this calmly. From whom did this calamity have to be hidden? By what legal or ethical considerations were the people guided who took these more than doubtful decisions? Were they aware of the real dimensions of the catastrophe? If they were, then how could they give such instructions? And if they weren't, then why did they hasten to take upon themselves such a serious responsibility? Surely, in the morning of 26 April, the radiation levels were known, levels which had risen steeply in consequence of the expulsion of fuel from the power station?⁴⁵

Despite the best efforts to downplay the accident, some residents of Chernobyl and Prypyat knew that something was wrong. Residents could clearly see that there was a huge hole in the nuclear power plant. Some were puzzled by this but figured that it was fine since their local government was not telling them anything was wrong. Others were much more suspicious, and this suspicion grew when some plant workers informed their families what they had witnessed during the night. Liubov Oleksandrivna Kovalevska was a writer living in Chernobyl and says that "the whole day we knew nothing, and no one said anything. Well, it was a fire. But as for radiation, that there were radioactive emissions, nothing was said about that."⁴⁶ Badaev, who had been operating the SKALA, informed his wife of what he witnessed when he returned home in the morning, but she did not know how to react to the situation:

I told my wife that something really bad had happened, from our window you could see the ruined block. I said: "It's advisable not to let the children out anywhere. And the windows should be closed." My wife, unfortunately, didn't do as I asked, she felt sorry that I had endured such a lot. I went to bed and she let the children out, so there'd be less noise. She gave me a chance to rest...It would have been better if I hadn't slept.⁴⁷

Local leaders could not ignore the effects of radiation much longer, especially since new information was coming to light. Dosimeter operators, mysteriously absent

⁴⁵ Shcherbak, Chernobyl, 73-74.

⁴⁶ Shcherbak, Chernobyl, 56.

⁴⁷ Shcherbak, Chernobyl, 58.

during the night, were beginning to contact engineers and local government with dosimeter readings that showed incredibly high levels of radiation. This knowledge proved beyond doubt that Chernobyl and Prypyat were not safe places to be and directly attributed this danger to the accident at the plant.

At 11 pm, almost 24 hours after the explosion, a meeting was called to discuss evacuation. Aneliia Romanivna Perkovska, the secretary for the Prypyat Komsomol Town Committee, participated in this meeting. There, in the middle of the night, the Town Committee decided it was best to evacuate the town, but Perkovska could not tell anyone until the official announcement was made the following morning, around noon:

There was consultation among us on the text to notify the people of Prypyat. I can more or less recite it from memory: “Comrades, in connection with the accident at the Chernobyl Nuclear Power Station we announce the evacuation of the town. Have your papers, indispensable things and, if possible, rations for three days, with you. The evacuation will begin at 1400 hours.” It was broadcast four times.⁴⁸

Since there was no evacuation plan in place, it was very unorganized. Residents of Prypyat were given only a few hours to pack their belongings before they were put onto buses and taken to Poliske, a large village northwest of Chernobyl. Families and children were separated and residents were led to believe that they would be able to return in three days time for the rest of their things. Many primary accounts say that although the evacuation went forth with no preconceived plan, there was a certain calmness to the process. This can partly be attributed to the fact that most residents believed they could return rather soon and that their lives would not be disrupted for long. Most people also felt awed that they needed to evacuate at all. They did not want to accept that something terribly wrong had happened with technology that they trusted.

⁴⁸ Shcherbak, Chernobyl, 64.

Eventually 23,000 people would be moved to Poliske before needing to be uprooted again, since this village was in the line of nuclear fallout and became contaminated with radiation in the weeks following the accident.⁴⁹

The day that the evacuation began, there were a limited number of buses available to transport people, so plant operators and party officials were given priority and were evacuated first. The last people to evacuate were those living west of Chernobyl. They left in mid-May, nearly four weeks after the explosion. Without foreseeing any sort of accident, without having planned for the worst-case scenario, the logistical situation facing the Ukrainian Soviets was daunting. As a result, the longer these residents stayed within the fallout zone, the higher dosage of radiation they received and the sicker they became.

Several aspects set Chernobyl apart from previous accidents. The explosion at Chernobyl released far more radiation than any other accident in the Soviet Union, while improved technology and communications in the 1980s made the accident harder to keep quiet. It was also located relatively close to large urban centers and countries outside of the Soviet Union, which proved to be the most important factor in revealing the true nature of events.

On April 28, operators at the Forsmark Nuclear Power Plant, 60 miles north of Stockholm, Sweden, noticed radiation levels surrounding their plant were four to five times normal and rising fast. Plants in Norway and Denmark were reporting similar conditions. After confirming that nothing was amiss at their plants, these Scandinavian countries cast their eye on their neighbor to the south, and the Soviet Union initially held

⁴⁹ Marples, Social Impact..., 31.

fast that nothing had happened there as well. Although the Soviet government may not have wanted to admit their extreme fault, this international attention forced the Soviet Union to give an explanation. That night, a brief mention was made of the accident on the Moscow news. This was the first that the broader public heard of the explosion. Intentionally vague, it gave the impression that local government has taken care of every problem:

An accident has taken place at the Chernobyl power station and one of the reactors was damaged. Measures are being taken to eliminate the consequences of the accident. Those affected by it are being given assistance. A government commission has been set up.⁵⁰

There was disagreement among residents of Chernobyl and Prypyat as to whether their government was dealing with the accident in an honest way. Kovalevska, the writer, was appalled that “the newspapers were writing lies... To know the real essence of things and to read such bravura articles. It was a terrible shock and deeply upset me.”⁵¹ Compare this view with Shcherbak’s, who believed that “the newspapers those days, describing the benevolence with which local people received those evacuated, were not trying to deceive anyone... this is only half of the truth.” Shcherbak thought the other half of the truth was the lack of information immediately available. This was compounded by the fact that after the Moscow news briefing, almost nothing was said for three weeks. Up to this point, residents from surrounding areas continued to flee, but no new information was released. Then, on May 14, 1986, Gorbachev addressed the Soviet public on television. He admitted that something had gone horribly wrong at Chernobyl

⁵⁰ Wagner and Ketchum, Living with..., 111-112.

⁵¹ Shcherbak, Chernobyl, 69.

and described what had happened, but assured the people of his country that the situation was under control:

In view of the extraordinary and dangerous nature of what happened at Chernobyl, the Politbiuro took charge of the entire organization of the work needed to ensure the speediest possible action to control the accident and limit its effects... All the work is being conducted around the clock. The scientific, technical and economic capabilities of the entire country have been called into action...All aspects of the problem...are under the close scrutiny of the Government Commission.⁵²

With this address, Gorbachev wanted to make clear that the Soviet Union was doing all it could to adequately address the situation. Without an emergency plan, these experts lacked the organization to bring the most benefit to these people. The language that he uses to portray this message is very vague, and prompts many questions. He mentions radiation in passing but does not give any specific information regarding the danger in the region, leaving his audience wondering about the real extent of damage. By saying “called upon,” are the experts actually on scene and helping? Or has help just been pledged and the workers are still not present? He says repeatedly that the “well-coordinated action” prevented further damage to public health and the environment, but there is no way the action could have been coordinated when multiple primary sources condemn that there was no plan. When Gorbachev does address more specific problems, the claims he makes are very bold:

I have every reason to say that, despite the gravity of what happened, the damage turned out to be limited, largely because of the courage and skill of our people, their loyalty to duty and the well coordinated action being taken by everybody involved in dealing with the aftermath of the accident. Thanks to the effective

⁵² Mikhail Gorbachev, “Address on Soviet television,” 14 May 1986, *Seventeen Moments in Soviet History*.

measures taken, we may now say that the worst is behind us. The most serious consequences have been averted.⁵³

While Gorbachev clearly wanted to reassure the Soviet people that these problems would be taken care of, statements such as these mislead the public into thinking that the situation was much less severe than it realistically was. He also states that, “as soon as we received reliable preliminary information it was made available to the Soviet people and sent through the diplomatic channel to the Governments of foreign countries.” Internal documents that speak of the immediate dangers facing residents of the fallout zone are dated three days before internal memos that instruct party officials to release information to other nations. This three day lag resulted in higher exposure levels to residents of the fallout zone and represents a time where action was delayed due to a lack of information. Paired with the slow evacuation process, there is more than enough evidence to disprove Gorbachev’s statement that information was free flowing.

The second half of Gorbachev’s speech condemns the international response, particularly from the United States:

All in all we were confronted by a massive tangle of the most barefaced, malicious lies. [The United States] launched an unbridled anti-Soviet campaign. Goodness only knows what they have said and written in recent days about "thousands of victims," "mass graves," "desolate Kiev", "the entire Ukraine poisoned" and so on and so forth.⁵⁴

By focusing one half of his speech criticizing the United States, Gorbachev was drawing attention away from the situation at hand and finding a convenient scapegoat in the United States. Speaking only of the most responsible and compassionate workers, doctors, engineers, and politicians in the Soviet Union, it was easy for him to deflect any

⁵³ Gorbachev, “Address...”

⁵⁴ Gorbachev, “Address...”

anger the Soviet people felt towards their government onto the United States. All that this accomplished, however, was a temporary distraction from the real problem.

Part IV: Consequences and Outcomes of Chernobyl, May 1986 and beyond

Given the Soviet Union's record of keeping nuclear accidents a secret, the initial desire to downplay this event is not surprising. *Glasnost* had only been introduced two months previous, so it is unrealistic to think that the inner workings of a state could be transformed in such a short period of time.

How much of this minimizing was attributable to not being prepared for an accident and how much was attributable to the political atmosphere in the USSR? Sharing good news, such as technological advancement and modernity, with the satellite states and the rest of the world is quite different from being forced to share the bad news that a facility in your country has exploded and is now polluting many thousands of square miles, both locally and internationally. Emergency relief is notoriously lacking the world over: take for instance the response to Hurricane Katrina or the Bhopal gas disaster, where delayed and botched emergency responses caused thousands of deaths. When a government decides to build a technology involving highly poisonous byproducts, it has already made an assumption that the benefits outweigh the risks, and in doing so, the risks are minimized and the inherent problems are assigned to scientists and technicians to solve. However, in spite of multiple backup systems, the best laid plans can go awry; mistakes are made, specifications are ignored, and cataclysmic events result. The secrecy that permeated most of the Soviet Union added another layer to an already complicated and dangerous situation.

Chernobyl was a wake up call for the Soviet Union. By forcing the Central Committee to internalize what *glasnost* entailed, it set the tone for the continuing response to the accident. By 1990, four years after the accident, the attitude towards information had changed. A report written by Soviet governments in the USSR, the Belorussian Soviet Socialist Republic, and the Ukrainian Soviet Socialist Republic was presented to the UN and the International Atomic Energy Agency. This report revealed radiation levels for the three republics and admitted how many acres of agricultural and forest land were ruined. It covered the health effects of 1.5 million people living in the radioactive fallout zone in Belorussia, Ukraine, and the Soviet Union.⁵⁵ Giving specific information showed that the Soviet Union would no longer hide or downplay the effects of the accident and the true version of events. A combination of international pressure and the Soviet Union's own realization of the value of *glasnost* brought about a transformation in governmental accountability.

⁵⁵ International Atomic Energy Agency, "Information on Economic and Social Consequences of the Chernobyl Accident," 24 July 1990, *Seventeen Moments in Soviet History*.

Works Cited

- Andropov, Yuri. "KGB memorandum from Andropov to the Central Committee, February 21, 1979, on construction flaws at the Chernobyl nuclear power plant." *Revelations from the Russian Archives: Documents in English Translation*. Eds. Diane P Koenker and Ronald D Bachman. Washington: Library of Congress, 1997. 500-502. Print.
- Bennett, Burton, et al. "Health Effects of the Chernobyl Accident and Special Health Care Programmes: Report of the UN Chernobyl Forum Expert Group." World Health Organization. Geneva, 2006. 10 Oct. 2010.
- Falaleev, P.P. "On checking the structural condition of the first unit of the Chernobyl AES." *Revelations from the Russian Archives: Documents in English Translation*. Eds. Diane P Koenker and Ronald D Bachman. Washington: Library of Congress, 1997. 501. Print.
- Gorbachev, Mikhail. "Address on Soviet television." 14 May 1986. *Seventeen Moments in Soviet History*. Web. 10 Oct. 2010.
- Gorbachev, Mikhail. *Perestroika: New Thinking for Our Country and the World*. New York: Harper & Roe, 1987. Print.
- International Atomic Energy Agency. "Information on Economic and Social Consequences of the Chernobyl Accident." 24 July 1990. *Seventeen Moments in Soviet History*. Web. 10 Oct. 2010.
- Makukhim, A.K. "Urgent report on the Chernobyl accident from the first deputy minister of energy and electrification, April 26, 1986." *Revelations from the Russian*

Archives: Documents in English Translation. Eds. Diane P Koenker and Ronald D Bachman. Washington: Library of Congress, 1997. 503. Print.

Marples, David R. *The Social Impact of the Chernobyl Disaster*. New York: St. Martin's Press, 1988. Print.

Reed, Piers Paul. *Ablaze: The Story of the Heroes and Victims of Chernobyl*. New York: Random House, 1993. Print.

Rylskii, Maksim. "The Nuclear Power Industry in the Ukraine." *Soviet Life* (February 1986): 8-13.

Shcherbak, Iurii. *Chernobyl*. New York: St. Martin's Press, 1989. Print.

Wagner, Henry N. and Ketchum, Linda E. *Living With Radiation: The Risk, the Promise*. Baltimore: Johns Hopkins University Press, 1989. Print.