



# NEWS FROM BEYOND NUCLEAR

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## **Chernobyl Reactor Explosion Effects Greater than Claimed, Especially for Children, Comprehensive New Report Shows**

***Chernobyl: Consequences of the Catastrophe for People and the Environment***, a comprehensive new report on the 1986 reactor accident, found that by 2004, 985,000 additional deaths worldwide were caused by the disaster, 212,000 of them within European Russia, Belarus and Ukraine. These numbers contrast greatly with the 2005 estimate by the Chernobyl Forum (a group of UN agencies) of 9,000 cancer deaths in the same areas for the period of 90 years after the meltdown. Children have been and continue to be particularly affected with multiple adverse health outcomes.

Written by Alexey Yablokov, Vassily Nesterenko and Alexey Nesterenko and edited by Janette Sherman-Nevinger<sup>[i]</sup>, the newly translated and released report<sup>[ii]</sup> corrects official statements made by the International Atomic Energy Agency (IAEA) and the World Health Organization (WHO), UN agencies that minimized the health and environmental impacts of the Chernobyl nuclear catastrophe.

The report summarizes published data from the many regions contaminated by radioactive fallout, and is based on more than 5,000 studies, most of which were not available in English or outside of the former Soviet Union.

“The conclusions reached by this report call into question the ability or the willingness of the WHO to undertake reliable health studies,” said Cynthia Folkers, Radiation and Health Specialist with Beyond Nuclear. “It points to the agency’s [conflict of interest](#) in its working relationship with the IAEA whose mandate is to expand nuclear energy use while the WHO objective is to promote and protect health. It is impossible to investigate health consequences from radiation with any integrity while at the same time promoting nuclear power.”

The explosion<sup>[iii]</sup> of the Chernobyl nuclear power facility released hundreds of times more radiation than the bombs dropped on Hiroshima and Nagasaki. Radioactive contamination spread across the entire northern hemisphere, exposing 400 million people.

Many life systems were studied in the report including humans, voles, livestock, birds, fish, plants, mushrooms, bacteria, and viruses. With few exceptions, the report found, all were changed by radioactive fallout, many irreversibly. While cancer incidence and deaths in humans have been emphasized, other illnesses increased including those of the heart, thyroid, kidney, bone, lung, cataracts among the young, accelerated aging, and immunological abnormalities.

Although the data show adverse effects to health appear more quickly from higher dose exposures, the authors concluded that lower dose exposures can have the same or greater detrimental effects, although these may appear later in both those originally exposed and in those born after the Chernobyl meltdown. Further, the radioactive contamination circulates through natural processes such as the growth of plants and trees that continually re-circulate ground and water contamination to new generations of plants and to the people and animals that eat them.

“This is a serious finding which illustrates that low doses, over time, can result in cumulative damage which is equal to or greater than a higher single dose,” said Dr. Janette Sherman-Nevinger, editor of the book. “Since nuclear reactors continually release radiation as they operate, we have not yet calculated the damage to ourselves and our environment caused by ‘normally operating’ nuclear power reactors”.

Children have been most seriously affected. Before the radioactive Chernobyl releases, 80% of children were deemed healthy in Belarus, Ukraine and European Russia. Today, in some areas, only 20% of children are considered healthy. Many have poor development, learning disabilities, and endocrine abnormalities. Of great concern are increased prenatal and infant mortality and birth defects among those not even born at the time of the catastrophe. A [recent study](#) published in the journal *Pediatrics* lends further support to this conclusion.

“To consider the effects of a nuclear meltdown, draw a 50-mile circle around every nuclear power reactor, even though the damage extends far beyond that radius,” added Sherman-Nevinger. “Losses within that radius could include families, buildings, gardens, personal possessions, businesses, factories, land, trees, wild and domestic animals, farmland, fisheries and more. Are such losses acceptable?” she asked.

“The world does not have to risk its children’s future by using a reckless technology like nuclear power when we have better, cleaner, safer sustainable energy,” concluded Folkers.

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Beyond Nuclear aims to educate and activate the public about the connections between nuclear power and nuclear weapons and the need to abandon both to safeguard our future. Beyond Nuclear advocates for an energy future that is sustainable, benign and democratic. The Beyond Nuclear team works with diverse partners and allies to provide the public, government officials, and the media with the critical information necessary to move humanity toward a world beyond nuclear.

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[i] Dr. Alexey Yablokov, a marine biologist, was chair of the Russian National Security Council's Interagency Commission for Ecology under President Boris Yeltsin and a member of the Russian Academy of Science. Yablokov is an Honorary Foreign Member of the American Academy of Art and Science (Boston.)

[Dr. Vassily Nesterenko](#), nuclear physicist, member of the National Academy of Sciences, Belarus, and director of the Institute of Nuclear Physics, Minsk at the time of the accident, flew over the burning reactor and took radiation readings. He and Andrei Sakharov established a Belarussian organization (BELRAD) to help children affected by the accident. In August 2008 he died of massive internal organ damage from radiation exposure.

Dr. Alexey Nesterenko is a biologist/ ecologist based in Minsk, Belarus.

[Janette Sherman-Nevinger, MD](#), is a physician, toxicologist and adjunct professor in the Environmental Research Center at Western Michigan University. She is author of *Life's Delicate Balance, Chemical Exposure and Disease*, and other publications on chemical and radiation-induced disease.

[ii] Yablokov, A. et al. *Chernobyl: Consequences of the Catastrophe for People and the Environment*. ed. Sherman-Nevinger, J. Annals of the New York Academy of Sciences. V. 1181. Boston. 2009

For copies of *Chernobyl: Consequences of the Catastrophe for People and the Environment* contact the publisher, New York Academy of Sciences, [www.nyas.org](http://www.nyas.org), 250 Greenwich Street, New York, NY 10007-2157, (212) 838-0230

[iii] Background:

On April 26, 1986, reactor unit 4 of the Chernobyl nuclear power plant exploded, spewing radioactive material for days before evacuation took place through routes that ensured further contamination of an already exposed populace.

Pripyat, an entire city of 50,000 citizens, with some 13,000 apartments, a hospital, schools, stores and parks, was entirely evacuated after the Chernobyl releases. The people had to abandon their family treasures and records, furniture, photographs, musical instruments... everything.

The Pripyat River, which supplied cooling water to the Chernobyl reactor, became heavily contaminated. It drains into the Dnieper, a major route between Kiev, the Black Sea, and ultimately the Mediterranean. Thousands of acres of agricultural land were contaminated. Despite removal of some acreage from production, the food supply remains contaminated and will remain so for centuries, impacting especially the young and the unborn.