NUCLEAR ENERGY TIME BOMB:
TWENTY YEARS AFTER CHERNOBYL

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Introduction

Twenty years ago, a simple human error caused an explosion in nuclear reactor No. 4 in Chernobyl. Within seconds, it became an inferno. Within minutes, vast plumes of deadly radioactive debris were hurled high into the atmosphere. Radioactive clouds drifted across Europe and shed their radioactivity. Virtually every country in eastern and western Europe was contaminated, some at potentially dangerous levels. A nuclear nightmare had come true. Millions of terrified Europeans did not dare eat lettuce, drink milk, go swimming, or allow dust to remain on their clothes.

Chernobyl revealed a country's limited capacity to deal with a catastrophic civilian nuclear disaster. The West German government in Bonn was first informed four days after the accident. Nuclear energy politics in Germany has never been the same since. Chernobyl marked the beginning of a life and death struggle with a technological monster out of control.

Chernobyl has provided the impetus for anti-nuclear sentiment and convinced most nations of the need to scale back nuclear power. By 1989, only France and Japan were the only two major industrialized countries that planned to expand their nuclear power plants. In a referendum in 1990, Sweden decided to phase out its twelve nuclear power plants which generated half of its electricity. Similar trends occurred in Italy and Germany.

Nuclear technology

The history of technology is littered with examples of new machines failing disastrously, from boiler explosions in the steam engines of the 18th century to fatal explosions on board space craft in today's exploration of space. But each time mistakes were corrected and improvements made, leading to safer machinery.

The problem with nuclear energy is that it poses dangers on a much larger demographic, environmental and time scale, so that the customary method of learning from mistakes cannot be safely applied. Nuclear disasters do not affect a few people directly involved with the technology, as in coal mine

accidents. Instead, they affect thousands who happen to live near the disaster site, inducing cancers among the exposed population and genetic defects in unborn generations. Large areas are rendered uninhabitable from radioactive contamination of the environment.

Democratic control of technology

Nuclear energy was born in the wartime laboratories of the Manhattan Project, which spawned the atomic bombs that destroyed Hiroshima and Nagasaki in 1945. After the war, nuclear power was acclaimed as a new, cheap, clean source of energy. In time, nuclear energy brought regret, grief and fear. It has proved to be a highly expensive form of energy and carries the continual risk of catastrophic accidents and serious health and environmental problems. It is also the source of nuclear weapons which threaten human survival.

The development of nuclear power after the end of the Second World War is an example of human folly. It raises fundamental questions about the ability of representative systems of government to manage complex technologies responsibly and democratically. The growth of nuclear technology, particularly in the United States, lends itself to an important examination of how key decisions were made in a democracy and how democracy interacts with technology, particularly at the present time when nuclear energy is being sold as a solution to global warming and climate change. We must learn from past mistakes in order to enhance our ability to make wiser decisions about technology in the future.

A spirited debate on the safety of nuclear power has been going on since the mid-1960s. Advocates of nuclear power argue that the risks from other sources of energy are substantial: acid rain and global warming from coal-fired plants, destruction of habitats and forests from hydroelectric power, as well as economic and political instability and even wars arising from reliance on oil imports.

Opponents of nuclear power point out that nuclear power plants cost 65 percent more and twice as long to build than an equivalent coal-fired plant. Nuclear facilities are inherently unsafe, unpredictable, and prone to human error and accidents.

The effectiveness of an anti-nuclear movement will depend on a country's political structure, whether it allows or disallows civil society groups to participate in the policy-making process. In the case of nuclear power, safety must override economics, and all safety measures must be taken to the limits of science and technology and shown to be inadequate.

The democratic process also requires that the public has free access to information and freedom of expression through an independent media. This is becoming more and more a problem when the media are captured by politically-aligned corporations and/or political parties.

In an increasing globalised world, the question is whether increasing reliance on technology is compatible with democracy, when science and technology are driven by market forces.

The Chernobyl accident has stripped the nuclear industry of its technological arrogance and caused a serious crisis of confidence. But with increasing oil prices and climate change from greenhouse gases, the nuclear industry, backed by some powerful governments, is resurgent once again.

The nuclear lobby falsely claims that nuclear energy is environmentally clean and climate-friendly, forgetting that radioactive nuclear waste is accumulating in 44 countries, with no safe method of disposal. When plutonium has a half-life of 24,000 years (240 centuries), we are talking about contamination and exposure to radioactivity for a very, very long time.

Nuclear weapons

The close links between nuclear technology and nuclear weapons provide another strong argument against nuclear power. Since nuclear power plants can be used to produce highly enriched uranium or plutonium, such weapons-grade nuclear material can be secretly diverted to the production of nuclear weapons.

The International Atomic Energy Agency (IAEA) has an inherent conflict of interest. It promotes the peaceful uses of nuclear technology and at the same time is charged with the dual responsibility to ensure that civilian nuclear material is not diverted to military purposes.

The Jekyll and Hyde nature of nuclear technology is precisely the basis of the contentious proliferation problems facing North Korea and Iran. Iran, as a signatory of the Nuclear Non-Proliferation Treaty (NPT), rightly claims it has a right to the peaceful uses of nuclear energy, including starting a uranium enrichment facility. On the other hand, the United States and other nuclear weapon states, which are upgrading their nuclear arsenals, strenuously object to Iran's nuclear ambitions, on the grounds of Iran's past violations of its NPT obligations and recent inflammatory rhetoric against Israel.

In yet another exquisite display of double standards, the United States has recently signed an agreement with India on civilian nuclear cooperation. This is tantamount to rewarding a country that has recently acquired nuclear weapons and chosen to remain outside the NPT.

Double standards are a recognized failing in human behaviour and international relations. The axiom of proliferation is that the possession of nuclear weapons by any state is a constant stimulus to others to acquire them. In the present political climate of nuclear apartheid, any non-nuclear weapon state with civilian nuclear facilities, including North Korea and Iran, is a potential nuclear weapon state.

Conclusion

At present, there are about 450 nuclear power plants in 44 countries, each a virtual time bomb. Each reactor is a potential bomb factory, a terrorist target, and a source of endless radioactive waste.

All arguments in favour of nuclear power are vacuous and meaningless if civilization is destroyed in a nuclear war, made possible by the spread of nuclear power plants. Increasing global dependence on nuclear power may bring with it a growing risk of nuclear war. We know that a bomb, made from a few pounds of plutonium, produced in a reactor, can destroy a city.

In addition, continuing with nuclear energy will unavoidably leave future generations with a deadly legacy of radioactive waste which cannot be disposed of safely.

Nuclear power plants are potential targets in a terrorist attack or in a conventional war. A single nuclear plant, hit by a conventional explosive, could release over 30 times the radioactivity of the Chernobyl accident.

If nuclear technology is allowed to continue, it is likely that a few decades from now almost any nation would be able to build a nuclear weapon, if it wanted to. Turning back the technological clock by eliminating nuclear technology altogether could prevent such a state of affairs.

These are the nuclear choices we need to make today, after analyzing complex and difficult nuclear questions in an informed and critical way. In my view, nuclear power is a technology that must be phased out in the long term. The whole energy equation must be addressed holistically and redefined in terms of energy conservation, energy efficiency, and the use of renewable sources of energy. As Mikhail Gorbachev said after the Chernobyl disaster: “The nuclear age requires fresh political thinking and fresh policies.”

Germany can play a significant leadership role in helping to turn the tide and make the world a safer, nuclear-free world for future generations.

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