Nuclear Disaster: Could It Happen Here?

by Glenn Barlow

During the two weeks that the Soviet disaster near Kiev dominated the media, Americans were frequently reassured by government and atomic industry propaganda that such an accident could not happen here. Unlike the reactor at Chernobyl, we were told, our nuclear power plants have containment structures to prevent the accidental escape of radioactivity. Three weeks after the Soviet accident, U.S. officials admitted that information had been available all along from technical Soviet literature and from the CIA that revealed that the Chernobyl reactor, which is only three years old, actually did have containment features very similar to those in the U.S. "The U.S. nuclear industry is . . . wrong when it asserts that it can't happen here. Containment buildings are not failsafe," said Congressmember Edward Markey of Massachusetts. His committee has oversight on nuclear reactor issues.

On May 20, 1986, Robert Pollard, who has worked in the Navy's nuclear power program and on the staff of the Nuclear Regulatory Commission (NRC), charged at a Ralph Nader-sponsored press conference that the U.S. government is covering up its own official findings that 39 of America's 100 nuclear power plants have containment structures that could leak or rupture as a result of reactor accidents. He said that contrary to early reports, the Chernobyl reactor had a containment building that "bears a striking resemblance to the defective pressure-suppression design used by General Electric." He said that General Electric, which has built 32 nuclear power plants in the U.S. and 17 abroad, has persuaded U.S. authorities not to publicize criticism of its design. President Ronald Reagan was an employee of General Electric for many years.

Alongside Pollard on May 20 was Daniel Ford of the Union of Concerned Scientists. He said that U.S. authorities have made "a false claim" that U.S. plants are housed in "magic shield" containments that will protect against radiation leaks. "There is no magic shield at any American nuclear plant that is designed to cope with a major meltdown accident," he said. "What is more, at roughly 40 percent of the nuclear plants in the United States, the containment building may leak or rupture in the event of relatively minor accidents."

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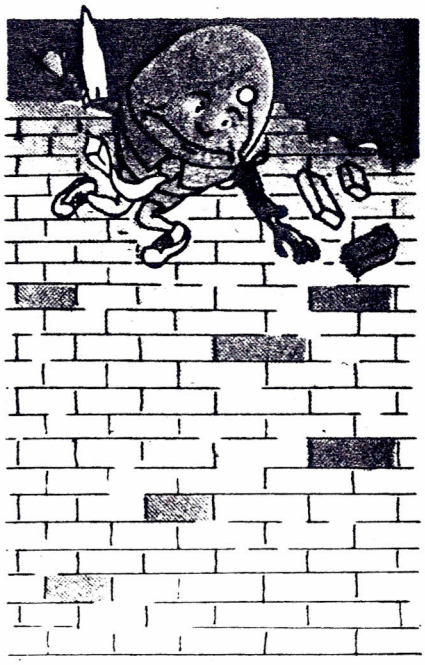

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Five of America's largest nuclear reactors do not have containment structures at all. These are owned by the federal government, and operated by private contractors, at sites in South Carolina and Washington. They produce plutonium for nuclear weapons. These five reactors were retired antiques until Reagan pulled them out of mothballs in 1981 to meet his goal of producing enough plutonium for 17,000 new nuclear weapons during his reign. Many nuclear weapons facilities have been careless about safety because they operated behind a veil of secrecy until quite recently. For example, since 1952, the Livermore labs near San Francisco have frequently leaked plutonium and other radioactive contamination into the air, San Jose's water supplies, and the fertile farmlands of the Central Valley.

On May 12, 1986, Americans learned that military reactors and plutonium factories at Hanford in the past routinely released radioactive gases at levels that today would qualify as a major nuclear accident, thousands of times greater than the levels recorded after Three Mile Island (TMI). The American public did not gain access to realistic information on the health hazards of exposure to radiation until the 1970s because most nuclear activities were shielded from public scrutiny by the excuse of "national security secrets." Thus, when atmospheric nuclear explosions near Las Vegas were spreading radioactive contamination all the way to New England and around the globe in the '50s and '60s, naive Americans were reassured by their government that there was no danger to the public.

The list of American nuclear accidents (elsewhere in this issue) reminds us that there have been many leaks of radioactivity from U.S. military and commercial nuclear facilities. Most of these were kept secret until after the leaking radiation was dispersed. The amount of radiation released was usually not adequately measured.

Rather than ask can it happen here, we should be asking what will we do when it happens the next time. Because radiation is invisible and undetectable by human senses, governments can avoid informing the public of the true dimensions of nuclear accidents. The Soviets were trying to do what they and the Americans have done in the past, i.e., keep it a secret. But this time, the radioactivity was detected by other governments up to thousands of miles from the source. Monitors in Sweden found 16 types of radioactive particles in Scandinavian air. All

over Europe, higher than normal levels of radiation were observed. People took iodine to prevent thyroid cancers. Milk, beef, fresh produce and water supplies were contaminated. In past nuclear accidents, public panic was avoided simply by not informing people in the exposed regions. Because ordinary citizens do not have radiation monitors and because the cancers caused by radiation often do not surface until 10 to 30 years after exposure, governments always say "there is no danger to the public" from nuclear accidents. Our worsening cancer epidemic is possibly to a large extent due to past exposures to radioactivity.

WE ALMOST LOST DETROIT

We almost lost Detroit from a nuclear meltdown in 1966. Los Angeles suburbs were dosed with radiation in 1957 from a meltdown at the General Atomics reactor. Denver suburbs and water supplies are permanently contaminated with plutonium from a long series of nuclear accidents at Rocky Flats. The 1979 meltdown at TMI could have been much worse. An area the size of Pennsylvania could have been permanently contaminated with radioactivity.

When Jimmy Carter was asked, "Could there be a nuclear accident like Chernobyl in the USA?" the former nuclear engineer responded, "Yes, it's possible. Somewhat similar events have occurred in England and in Canada. When I was working in the nuclear submarine program, there was a disaster of this kind in Canada, at a place called Chalk River . . . . We have nuclear reactors in this country . . . without massive containment buildings. We've been remarkably fortunate in this country that there has been minimal injury and death to human beings. It's always a possibility."

NUCLEAR ACCIDENT INSURANCE

It was coincidental that during the Soviet meltdown the U.S. Congress was debating the first major revision in 30 years of nuclear accident insurance laws. The NRC estimates there is a 45 percent chance of another core meltdown as bad or worse than TMI in the next 20 years. A recent NRC report estimates that a major meltdown could result in up to 700,000 early injuries, over 100,000 early deaths, and up to $314 billion in economic damages. Do you know who would pay the bill for the enormous costs resulting from a nuclear accident? Under current law it would basically be the victims and the taxpayers. Commercial reactor owners are shielded by an absolutely unique limit on liability that even protects them from lawsuits in cases of willful misconduct or gross negligence. Also, every insurance policy in the USA has a "nuclear exclusion clause" that means that you cannot buy insurance for damages to your health or property in case of nuclear accidents.

How did this happen? When Eisenhower launched the "Atoms for Peace" program to encourage private ownership and export of nuclear technology, no corporation or utility would invest in it at first because the insurance industry refused to insure for nuclear accidents. That was in the mid-fifties! Even then they knew that losses could reach into the billions. So the McCarthy-era Congress passed the Price-Anderson Act which provides a unique subsidy in the form of absolute limits on liability in case of accidents. The privately owned atomic industry would have never begun if it had had to stand on its own in the free enterprise system by paying full liability insurance; today, it is such a subsidized and pampered industry that it can properly be termed socialism for corporations and their investors. As a result, today more than 130 million Americans live within 50 miles of a nuclear power plant.

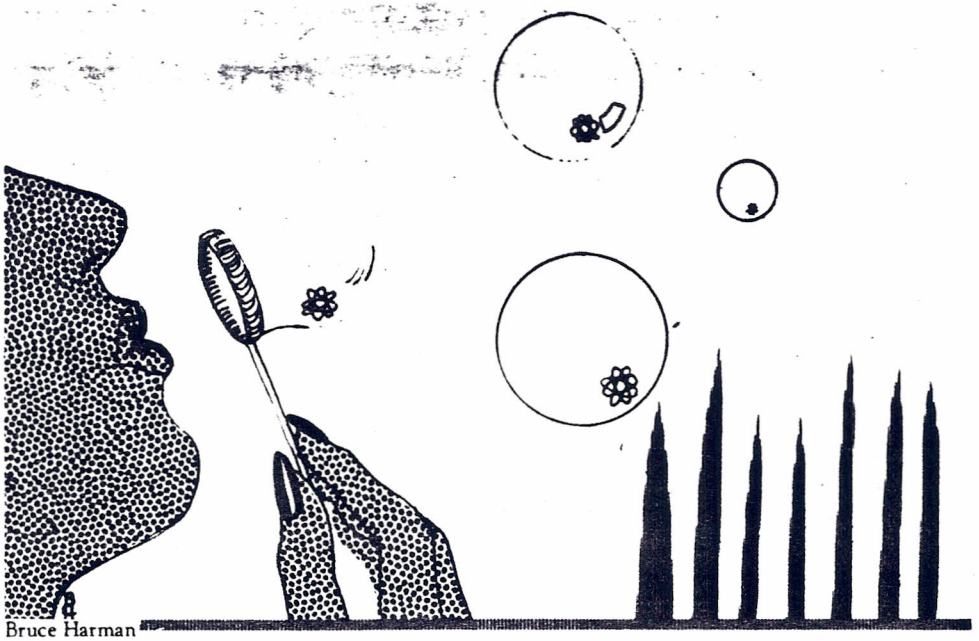
NRC Commissioner James Asselstine recently spoke in Santa Cruz on the nuclear insurance situation. Asselstine commented that the Chernobyl accident would probably have an effect on the debate in Congress, but he added that this nuclear insurance debate is a unique opportunity for American citizens to have an effect on the nuclear industry, if they make their views known to Congress. He believes that "The time has come for the nuclear industry to provide full insurance protection so that taxpayers and the victims of future accidents do not have to bear the costs." He further elaborated that the NRC's estimates of economic consequences from a nuclear meltdown (the top estimate was $314 billion) may be too low a figure because the criteria used for computer modeling icluded a bias that he suspects would tend to underestimate economic losses. For example, a meltdown at one of three reactors at San Onofre, halfway between Los Angeles and San Diego, was estimated by the NRC study to cause $186 billion in losses. But an independent study done for the state of California said that such a meltdown could require the evacuation of eight to ten million southern Californians, could contaminate 16,000 square miles, and could require emergency health care for hundreds of thousands of radiation victims. So it seems that the NRC has put too low a price tag on the loss of southern California.

Asselstine admitted that the NRC licensing of the 100 nuclear power plants now operating in the U.S. was based on "probabilistic risk assessments." For example, before TMI, the chances of a TMI type accident was estimated to be one in a billion. The NRC thus concluded, based on probabilities, that a worst case accident was incredible, could never happen, and need not be considered in the licensing process. Therefore, the NRC has never required reactor owners to analyze worst case accident scenarios in order to get a license.

DIABLO CANYON AND ACTS OF GOD

That "head in the sand" attitude of the nuclear establishment led to extremely circuitous logic in the licensing of Diablo Canyon and San Onofre Units 2 and 3, in the early Reagan years. Diablo and San Onofre are the only two nuclear power plant sites in the nation where earthquake hazards are extreme and very real. The NRC labels earthquakes as "acts of God." Based on probabilities, licensing a reactor is a gamble at best, but when you toss in acts of God such as earthquakes, then licensing reactors at sites like Diablo and San Onofre begins to seem like a bargain with the Devil.

Asselstine earned his title of "the conscience of the NRC" during the debate on licensing Diablo. On numerous NRC votes he was the minority in 4 to 1 decisions. Ultimately, he voted against licensing each of the Diablo reactors. He also persuaded the NRC to require a Seismic Review of new earthquake information by 1990. One



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issue that he attacked with a vengeance earned him respect from Congressmember Leon Panetta. It became a case in federal courts until the final decision was made in May 1986, after Chernobyl. That story began at San Onofre but did not surface in the media until Panetta asked for congressional hearings on transcripts of the NRC's secret meetings where they decided not to consider the possibility of an earthquake causing an emergency or accident at Diablo Canyon. In their Catch 22 logic, the NRC said that they were told that Diablo was built to withstand the strongest possible quake at the site and therefore no quake would ever damage Diablo and therefore no emergency plans had to be made to deal with simultaneous earthquakes and nuclear accidents. When the NRC was confronted in the Diablo case with the lack of logic in its reasoning, it resorted to relying on the fact that a precedent had been set in 1982 when San Onofre was granted its operating licenses using the exact same train of logic, i.e., there is no need for emergency plans following a hypothetical earthquake and nuclear accident because that will never happen. The San Onofre license also relied on generic rather than site specific accident analyses. Commissioner Asselstine was very frustrated with his colleagues over this. As he put it, Diablo and San Onofre were the only two sites in the country where earthquake hazards really mattered and the NRC failed to cope with reality. He thinks the Intervenors (citizens groups who opposed the licenses) should have been given more opportunity to argue their case on this. He also charged that the NRC violated its own regulations in the licensing of Diablo and San Onofre by consistently favoring the positions of the utilities and by treating the citizens groups like the enemy. The Intervenors at Diablo took the matter to court after the NRC voted to license the Diablo Canyon reactors for operation. After several lower decisions, the U.S. Court of Appeals in the District of Columbia voted in early May 1986 to uphold the earlier decision in favor of reactor owner, PG&E.

When NRC Commissioner Asselstine was asked, "considering the disastrous effects of this Soviet meltdown, why can't we just shut down all the reactors in America and end this risk to our national security?" the federal official responded, "Who would bear the financial burden? The utilities have invested $200 billion in nuclear technology."

Based on the NRC Commissioner's analysis, it seems that the synchronicity of the Chernobyl meltdown and the congressional debate on nuclear insurance laws offers a golden opportunity for the ordinary citizen to participate in changing nuclear history.

Glenn Barlow works as a media consultant in film and television production. He has taught Environmental Studies and Politics classes at UCSC. His writings have been published by Friends of the Earth, Greenpeace, the Sierra Club, and UCSC. He spent five years coordinating legal Interventions against the federal licensing of nuclear facilities at San Onofre, Vallecitos and Livermore. He is credited with the permanent shutdown of the largest reactor at Vallecitos, 17 miles from San Jose, which operated unchallenged for 20 years.