

Slow-Motion Cancer Pandemic

By Harvey Wasserman

In the 35 years since the March 28, 1979 explosion and meltdown at Three Mile Island, fierce debate has raged over whether humans were killed there. In 1986 and 2011, Chernobyl and Fukushima joined the argument. Whenever these disasters happen, there are those who claim that the workers, residents and military personnel exposed to radiation will be just fine.

Of course we know better. We humans won't jump into a pot of boiling water. We're not happy when members of our species start dying around us. But frightening new scientific findings have forced us to look at a larger reality: the bottom-up damage that radioactive fallout may do to the entire global ecosystem.

When it comes to our broader support systems, the corporate energy industry counts on us to tolerate the irradiation of our fellow creatures, those on whom we depend, and for us to sleep through the point of no return.

Case in point is a new *Smithsonian* report on Chernobyl, one of the most terrifying documents of the atomic age.

Written by Rachel Nuwer, "Forests Around Chernobyl Aren't Decaying Properly," cites recent field studies in which the normal cycle of dead vegetation rotting into the soil has been disrupted by the exploded reactor's radioactive fallout.

"Decomposers — organisms such as microbes, fungi and some types of insects that drive the process of decay — have also suffered from the contamination," Nuwer writes. "These creatures are responsible for an essential component of any ecosystem: recycling organic matter back into the soil."

Put simply: The micro-organisms that form the active core of our ecological bio-cycle have apparently been zapped, leaving tree trunks, leaves, ferns and other vegetation to sit eerily on the ground whole, essentially in a mummified state.

Reports also indicate a significant shrinkage of the brains of birds in the region and negative impacts on the insect and wildlife populations.

Similar findings surrounded the accident at Three Mile Island. Within a year, a three-reporter team from the *Baltimore News-American* cataloged massive radiation impacts on both wild and farm animals in the area. The reporters and the Pennsylvania Department of Health confirmed widespread damage to birds, bees and large kept animals such as horses, whose reproductive rate collapsed in the year after the accident.

Other reports also documented deformed vegetation and domestic animals being born with major mutations, including a dog born with no eyes and cats with no sense of balance. To this day, Three Mile Island's owners claim no humans were killed by radiation there, an assertion hotly disputed by local down-winders.

Indeed, Dr. Alice Stewart established in 1956 that a single X-ray to a pregnant woman doubles the chance that

her offspring will get leukemia. (See *The Woman Who Knew Too Much* by Gayle Green, University of Michigan Press, 1999.) During the accident at Three Mile Island, the owners crowed that the meltdown's radiation was equivalent "only" to a single X-ray administered to all area residents.

Meanwhile, if the airborne fallout from Three Mile Island and Chernobyl could do that kind of damage to both infants and the non-human population on land, how is Fukushima's continuous gusher of radioactive water affecting the life support systems of our oceans?

In fact, samplings of 15 tuna caught off the coast of California indicate all were contaminated with fallout from Fukushima.

Instantly, as always, the industry deems such levels "harmless." The obligatory comparisons to living in Denver, flying cross country and eating bananas automatically follow.

But what's that radiation doing to the tuna? And to the krill, the phytoplankton, the algae, amoeba and all the other microorganisms on which the ocean ecology depends?

Cesium and its Fukushima siblings are already measurable in Alaska and northwestern Canada. They'll hit California this year. The corporate media will mock those parents who are certain to show up at the beaches with radiation detectors. Concerns about the effect on children will be jovially dismissed. The doses will be deemed, as always, "too small to have any impact on humans."



The Three Mile Island nuclear reactor complex in Middletown, Pennsylvania, shown here in 2011, continues to generate electricity with its Unit 1 reactor. TMI was the scene of the 1979 meltdown of Unit 2, one of the worst nuclear power disasters in United States history.

Photo by Bradley C. Bower/AP.

But reports of a "dead zone" thousands of miles into the Pacific do persist, along with disappearances of salmon, sardines, anchovies and other ocean fauna.

Of course, atomic reactors are not the only source of radioactive fallout. Atmospheric bomb testing from 1945 to 1963 raised background radiation levels throughout the ecosphere. Those isotopes are still with us.

Burning coal spews still more radiation into our air, along with mercury and other lethal pollutants. Fracking for gas draws toxins up from the earth's crust.

Industry apologists say reactors can moderate the climate chaos caused by burning those fossil fuels. But fight-

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Depleted Uranium's Toxic Legacy Perpetually Endangering Exposed Populations

Two major reports are bringing renewed international attention on the US military's scandalous use against Iraq of munitions made of radioactive waste called "depleted uranium," or DU. The Pentagon has employed the controversial DU shells because of their reported armor-piercing power and because the United States military is saddled with 700,000 tons of the waste uranium-238.

The first report, "Laid to Waste: depleted uranium contaminated military scrap in Iraq," published in June by the Dutch organization PAX, is based on newly released US Air Force firing coordinates and shows that US pilots fired DU into civilian areas of Iraq and at Iraqi troops during the 2003 invasion and occupation. The actions defied the Air Force's own legal advice that the toxic and radioactive ammunition be used only against hardened targets in compliance with the laws of war.

The PAX report's principle warning is that the lack of legal obligations requiring environmental clean-up after using DU weapons — at least 488 tons in the 1991 and 2003 attacks — leaves Iraqi civilians continuously exposed to the highly hazardous debris years after the war.

The second report, "Malignant Effects: depleted uranium as a genotoxin and carcinogen," published in September by the International Coalition to Ban Uranium Weapons with funding by Norway's Ministry of Foreign Affairs, details the scientific evidence that internal contamination by DU is destructive of DNA — the building blocks of cells.

The 31-page study details the persistent hazards to civilians posed by radioactively contaminated wreckage and hotspots "long after conflict ends." If inhaled, drunk or eaten, embedded uranium particles emit alpha radiation that can alter or destroy DNA in ways that can cause cancer. Some studies have shown skyrocketing increases in birth abnormalities in areas heavily hit with DU weapons.

The authors recommend 1) full disclosure of targeting information, much of which is still kept secret by the Pentagon; 2) urgent initiation of civilian DU exposure studies; 3) the adoption of precautionary safeguards in the introduction of any new weapons; and 4) completion and adoption of an international agreement banning the use of uranium in weapons system. — *Both reports are at International Coalition to Ban Uranium Weapons, icbuw.org*

WIPP Fire & Explosion: Disaster at the Country's Only High-Level Waste Disposal Site

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in the release of radioactive material from the underground to the environment." Part of the "degradation" included 12 of 40 phones in the huge complex being out of service. Ironically, the DOE never required WIPP — a radioactive waste dump — to bring its ventilation system up to radiation control standards. When the radiation leak was detected, dampers were immediately supposed to close and begin filtering the cavern's air, thereby preventing above ground releases. However, the dampers leaked and thousands of cubic feet of radioactively contaminated air escaped. Apparently, DOE employees on site at the time resorted to using spray foam to keep the radiation from leaking further.

On the night of the leak, the first high-radiation alarm sounded at 11:14 p.m. According to the DOE investigation, control room managers were unable to find the responsible on-call radiation control expert when the alarm sounded. Not until ten hours later, about 9:30 a.m., did managers order the approximately 150 workers on the surface of the site to move to a safe location. It took another three hours to set up an emergency operation center.

In late August, New Mexico state officials revealed that regulators had failed to collect air samples in the week following the radiation release — because of a vacancy in the office responsible for monitoring the site at the time. A US Environmental Protection Agency (EPA) review of air testing done at WIPP in February and March found a mix of discrepancies in recorded times and dates of sample collections, flawed calculation methods, conflicting data, and missing documents. In fact, the EPA found that WIPP told the public that air samples contained no detectable levels of radiation when measurable levels were present, effectively lying about the severity of the leak.

In a move that added insult to injury, only five days after the truck fire closed WIPP, and four days before the barrel explosion, the DOE presented the contractor that operates the facility — Nuclear Waste Partnership, run by three nuclear industry giants — a \$1.9 million award for "excellent" performance during the past year. The award

was given in addition to a \$5.9 million "performance based" incentive awarded earlier in the year. The \$7.8 million represents earnings above the amount DOE reimburses the NWP for the annual cost of operating WIPP, a reported \$142 million last fiscal year and \$158 million this year. A letter from the DOE's Carlsbad Field Office cited the NWP's "excellent" or "very good" performance in all four of the areas evaluated including safety and maintenance.

In June, Carlsbad DOE field office spokesman Tim Runyon said, "The Department is not considering revision or termination of the contract pending the results of the radiological release investigation." Indeed, there seems not to have been even a slap on the wrist for the contractor, despite the investigation's damning conclusions. The only penalty that resulted from the accident, according to a WIPP spokesperson, has been a \$2 million, or 25 percent, reduction in the nearly \$8.2 million fee available in fiscal year 2014. (Remember, this is above and beyond reimbursement for operating costs.) And, NWP can earn back 50 percent of that penalty with good performance. (You have to wonder, what bad performance look like?)

Waste Shipped to Texas

After WIPP's radiation release, and in an attempt to meet an arbitrary removal deadline, LANL pushed its contractors to move the remaining waste containers packed with the reactive compound to a private low-level waste storage site in Texas. A few hundred of the barrels were sent to the neighboring state's facility, run by Waste Control Specialists (WCS), before DOE investigators put a stop to the shipments. LANL has agreed to pay WCS \$8 million for storing the volatile drums.

Chuck McDonald, a WCS representative, said in an interview that the Texas site had turned down earlier high-level waste shipments from LANL because its license is only for low-level waste. Prior to receiving the barrels that were rerouted from WIPP, WCS had received multiple warnings for accepting waste too hot for its permit. Now there is legislation pending in Texas that would allow WCS to accept highly radioactive waste. In late August, the Texas Commission on Environmental Quality approved changes to the WCS license that would more than triple the amount of waste the site can accept and reduce the amount of money the company would need to have on hand to address an accident like the one at WIPP (or worse) — leaving the remainder of the financial liability to taxpayers.

When the DOE designed WIPP as the "solution" to the problem of military radioactive waste, it estimated the risk of a radioactive release at one event every 200,000 years — not one every 15 years — according to former Assistant Energy Secretary Robert Alvarez. Official estimates of the cost of the accident have not been released, but experts and an *Los Angeles Times* analysis indicate it could approach \$1 billion. In August, Energy Secretary Ernest J. Moniz reassured worried residents at a Carlsbad town hall meeting that he would ensure the future safety of the facility: "You stick with us, and we're sticking with you," Moniz said.

With no end in sight to the stream of radioactive waste from weapons production and used nuclear reactor fuel, we're all stuck. But there is no excuse for the kind of negligence that put the public in danger in February.

— Natural Resource News Service, June 5; *The New Mexican* (Santa Fe), July 15; *Albuquerque Journal*, July 20; AP, Aug. 21; Reuters, Aug. 22; *Los Angeles Times*, Aug. 23, 2014

