Thirty Years Later

On the 20th and 30th Anniversaries of the Exxon Valdez and Three Mile Island Accidents, Respectively, We Do Not Seem to Have Learned From History

By Paul Rosenberg, *Senior Editor*

Graphic: Matt Highland

These are images from the days following the Exxon Valdez spill: Courtesy of the NOAA

Just after four in the morning on March 28, 1979—36 seconds after four, to be precise—the first pumps supplying water coolant stopped functioning at Unit 2 of the Three Mile Island nuclear power plant near Harrisburg, Pennsylvania. This began a chain of events that lead to a partial core meltdown and the release of radiation into the atmosphere, the full extent of which remains unknown to this day. Inside the plant, station manager Gary Miller stated, "Radiation was all over the place. Everything was off scale." Nearby cancer rates increased in the years following, but the official story blames the increase on "stress."

Almost exactly ten years later, just after midnight on March 24, 1989, the oil tanker Exxon Valdez struck Bligh Reef, spilling an estimated 10.8 million gallons of oil into the Prince William Sound, killing a quarter million to a half million seabirds, thousands of sea otters, hundreds of seals, and billions of young salmon, herring fish eggs and young juvenile fish. Despite cleanup efforts begun soon afterwards, a study by the National Oceanic and Atmospheric Administration (NOAA) found that over 26,000 gallons of oil remained in the sandy beach soil as of early 2007, and wildlife populations have yet to recover, including the commercial herring fishery. "You can go to beaches all throughout the Prince William Sound, and dig down an inch or two and you get to the black goo," said Chuck Clusen, National Parks and Alaska Projects Director for the Natural Resources Defense Council (NRDC). "Even after 20 years, there's a lot of damage.

Beaches do not recover for a very long time."

These two accidents—just over 30 and 20 years ago respectively—have become emblematic of the American response to environmental disasters, and the record of neither is reassuring.

Victims' Voices Stymied

In both cases, industry resistance to taking full responsibility has preemptively derailed any serious effort at social learning. Class action lawsuits were filed by thousands of rural residents in both cases. The Three Mile Island suit was thrown out of court without ever going to a jury. The Exxon Valdez case resulted in a jury award of $5 billion in punitive damages in 1994, but was slashed to just one tenth of that by the Supreme Court in 2008.

To this day, herring fishermen remain hundreds of thousands of dollars in debt. "A whole lifestyle has gone," restaurant owner Libbie Graham told *AP* last year. "Life was great. I mean, you worked hard, but you were rewarded for it." Exxon still says the damage award against it—four days worth of profits—is too high. There are traffic tickets that cost many working people more than four days worth of salary.

"You think you feel bad about this? We feel awful about it," Exxon spokesman Don Cornett told a town meeting in Cordova, Alaska four days after the accident. "I'm here to tell you what we're going to do about it. And I'm going to show you what we're doing about it. And we're doing the best job that's ever been done on an oil spill. And watch. Just watch. You have had some good luck, and you don't realize it. You have Exxon, and we do business straight."

At first, many believed them. It was several years before the lawsuit was filed. Five years before a jury ruled against Exxon. Cordova's mayor committed suicide in 1993, mentioning Exxon in his suicide note.

"We hadn't even gone to court by 1993," said local resident and marine toxicologist Ricki Ott, on Pacifica Radio's *Democracy Now!* last month. Ott was in that meeting with Cornett. "We had fish run collapses, bankruptcies, divorces, suicides, you know, domestic violence spikes, substance abuse spikes. The town was just unraveling. And we were waiting for somebody to help us: the State of Alaska, the federal government, the court system, Exxon... Nobody."

At first, the jury's decision in 1994 appeared to signal hope for a new beginning, but that was only the beginning of legal proceedings that dragged on year after year, with nothing to show.

"It is a democracy crisis," Ott said. "The question we started asking as our lawsuit went on and on and on, and we didn't get paid, was how did corporations get this big, where they can manipulate the legal system, the political system? What happened here?"

That question lead Ott back into an investigation of the origins of "legal personhood" for corporations, the result of an 1886 Supreme Court decision granting corporations the protection of law under the 14th Amendment—an amendment passed to protect the rights of African-Americans.

"For the first 40 years after that passed, there were 307 lawsuits brought, nineteen by African American men, the rest by corporations," Ott said. The corporations did very well by it, but the 14th Amendment did not prevent the Supreme Court from validating segregation in the notorious 1896 *Plessy* v. *Ferguson* decision. What Ott discovered, and described in her book, *Not One Drop: Betrayal and Courage in the Wake of the Exxon Valdez Spill,* was how the same amendment that failed to protect freed slaves and their descendents has also failed to protect the environment and those who depend on it for their livelihoods and way of life.

Nuclear Energy as Clean Energy?

Oil is oppressively visible. Radiation is not. Likewise, the damage done at Three Mile Island has been almost invisible compared to the Exxon Valdez. And for that, it is all the more sinister, particularly since nuclear energy is now being touted as a "clean" source of energy to counter global warming—a perspective that ignores the plethora of other environmental costs and dangers it carries with it.

"We should avoid mitigating one global harm by aggravating another," warned Geoffrey Fettus, Senior Project Attorney with the NRDC, who went on to stress the full life-cycle economic and environmental costs of

nuclear power, from mining the ore to requiring vast quantities of water to disposing the waste—a little detail that has yet to be worked out as the industry enters its second half-century—not to mention the problem of radioactive materials falling into terrorist hands.

Still, the illusion of operational safety plays a crucial role in the nuclear industry's hoped-for comeback. "As the nuclear industry grows with new plants, it wants and needs citizens to believe that no one was ever injured at TMI, and then perpetuate that belief so that no one will ever be injured from the 'peaceful atom,'" former nuclear engineer Arnie Gundersen told *Random Lengths*.

He should know. "I was on the industry side of this argument until 1992," he told a audience convened to mark the 30th anniversary. "I had people reporting to me during the recovery. I had a t-shirt that said, 'I survived Three Mile Island.' And I was on television saying that I think the Titanic hit the iceberg and the iceberg sunk."

What changed his mind was simply taking a deeper look at the facts, when approached to be an expert witness. "My opinions have essentially gone 180 degrees," he said.

Gundersen addressed three crucial questions: Should an evacuation have been ordered? Did the containment leak? How much radiation? In answering the first question, he went through a detailed timeline, concluding that there three points in time—7 a.m., 10 a.m., and 2 p.m. on the first day when standard procedures dictated that an evacuation should have been ordered. By 7 a.m., an engineer and a supervisor had used an approved emergency procedure to calculate exposure in nearby Goldsboro at 10 Rem/hour— compared to a normal background of 0.125 Rem/hour.

By this procedure an evacuation was required, but when reporting to state authorities half an hour later, they explained that they thought the calculation was questionable—though the reason they gave involved a pressure factor not present in the calculation. They also didn't say that employees working outside the unit had already received significant radiation exposure, or that most detectors inside the plant were already off the scale.

"In a situation like this, you don't try to change procedures on the fly," Gundersen said. But that's exactly what they did. There were similar failures at 10 a.m. and 2 p.m. as well. "Around 2 there was a hydrogen explosion, the control room shook," Gundersen said, but the Nuclear Regulatory Commission (NRC) was not informed until two days later.

There were systemic problems as well. It was a relatively calm day, so radioactive plumes could disperse with vary narrow trajectories. Taking measurements just 6 degrees away from the center could give readings off by a factor of 10,000. There were other sources of dose under-estimation as well. Taking a conservative view, Gundersen says that the radiation released was probably underestimated by a factor of 100 to 1000.

This vast underestimate was in turn used to discount widely reported symptoms.

“Many people [who reported symptoms were told that it was impossible because not enough radiation was released,” said health scientist Steve Wing, from the University of North Carolina. Wing, too, originally had no reason to question the official story. And, indeed, when he re-anaylized the original health results study done by a team from Columbia, he naturally found it to be well designed overall. But there were some problems on deeper inspection.

Not only did Wing arrive at different results in his re-analysis, he went on to write a detailed monograph, “Objectivity and Ethics in Environmental Health Science,” published in the journal *Environmental Health Perspectives* in Nov. 2003, which critically analyzed “how scientific explanations are shaped by social concepts, norms, and preconceptions.”

Here, the concern was not so much with economic self-interest, or a corporate “team player” mentality, but with inescapable factors involved with the fact that humans are not, and cannot possibly be, the sort of ‘neutral, objective observers’ that scientific mythology makes them out to be. Nonetheless, the end results dovetailed together, contributing to an interlocking social system of belief in the official story, even though there was a clear pattern of elevated cancer risk geographically close to the accident.

A further contributing factor was the nature of the population affected. “This was a conservative culture. Not a lot of people with professional degrees or experience.” They were not attitudinally, psychologically or institutionally prepared to challenge a professional/ industrial establishment which all too easily dismissed their concerns as imaginary, even though Wing’s own analysis of the literature on stress and hysterical reactions showed that they did not fit within the observed patterns involved when such explanations have proven valid.

As a result, the Three Mile Island plaintiffs did not even get their day in court, and a whole raft of problems that Gundersen, Wing and a number of other researchers have uncovered have never been seriously considered by the nuclear regulatory establishment.

“As a nation, we learned the easy lessons from TMI: to have better instruments and to train our staff and plan better,” Gundersen said. “ We missed the big lessons: that the unexpected will happen and that this technology of harnessing the ‘peaceful atom’ killed and injured people.

“We have not held our government accountable to tell the truth that people were injured at TMI,” he added. “I believe that sooner or later, in any ‘fool proof’ system, the fools will ultimately exceed the proofs. That is the real lesson from TMI which we have ignored.”

Twenty and thirty years after the fact, it now seems that our failure to learn the lessons, as well as the failure to find justice for the victims, loom almost as large as the original tragic accidents themselves.

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