

As co-director of the Don't Waste Oregon Committee, I've worked to close the Trojan Nuclear Power Plant for nearly 20 years. One of the great pleasures of fighting the Trojan War is that you get such great stories to tell. The Trojan plant really was built with a 30-day warranty (parts and labor only). It is literally true that the engineer who designed the plant had never before designed a wall. Then there was the Portland General Electric executive who remarked that he could see no reason why the company should investigate the cracks under the reactor and spent fuel pool, saying, "We already have our license."

Until two weeks ago, Trojan was simply one of the largest nuclear plants ever built, one that was in the bottom 10 percent in its safety record, and the one that happened to rest on the edge of perhaps the most menacing earthquake fault on the planet. But now, things have gotten really ugly. Recently-leaked reports by Nuclear Regulatory Commission (NRC) scientists indicate that the risk of a catastrophe at Trojan is 300 times greater than the risk at your average nuke.

The problem is Trojan's cracked generator tubes. Thousands of these tubes carry super-heated water from the core of the nuclear reactor. When cold water from a separate water system hits the outside of the tubes, it flares into steam, which pushes the great turbines. With pressures at 2,500 pounds per square inch, tube ruptures could leave operators unable to keep enough cooling water in the reactor to prevent the core from melting down. If that happens, the same ruptured tubes would provide an avenue of escape for the vast amounts of radioactive gas and debris created in the resulting inferno. In other words, goodbye, PDX.

The public and private reactions to the leaked NRC reports illuminate the varied roles of the key players, whose outlines are cast large and clear by the flash of this bombshell. Here is PGE, the company which owns and operates Trojan, all arrogance and greed. There is the NRC leadership, glibly pimping for the nuclear power industry. And there in the corner are the state energy regulators, cowardly to the core.

In nearly two decades of anti-nuclear activism, I do not recall another occasion when documents were leaked from within the NRC. History shows why. The NRC was a mean operation in the best of times, as these two stories clearly show:

Back in the 1950s, when it was called the Atomic Energy Commission, agency scientists produced reports showing that crucial nuclear safety systems could not be relied upon, and that a severe accident would kill tens of thousands of people. The reports were not refuted, they were simply buried. Top agency officials flatly denied that they existed.

At Trojan, one of the design engineers for the contractor wrote to the AEC, complaining that the Trojan reactor was entirely dependent upon one pipe and one water tank, and that if an earthquake were to damage them, then, "The only thing you can do is run." When the contractor, Bechtel Corporation, heard that the letter had been sent, its officials called the AEC commissioners, who graciously returned the letter to them — unopened.

In the mid-'80s, when Massachusetts Governor Michael Dukakis refused to prepare an evacuation plan for the neighboring Seabrook plant in New Hampshire, the NRC simply changed its rules to reduce the required evacuation zone from ten miles to two. An incredulous federal appeals judge questioned the NRC's lawyer about an evacuation plan that treated beach front hot dog stands as radiation shelters, asking whether the NRC was such a law unto itself that the Court would be required to approve an emergency plan requiring only "Bibles and suicide pills". (Seabrook is operating today.)

Needless to say, after 12 years of Reagan and Bush, the NRC is now worse than it has ever been, with all five of its commissioners having been the hand-picked candidates of the nuclear industry. (In 1989, they showed their stuff by unanimously approving a contract in which a nuclear whistle-blower was silenced by the utility in return for the payment of tens of thousands of dollars. Freedom of contract, and all of that.)

One must imagine that career people inside the NRC have seen a lot, and have learned to keep their mouths shut. They know that for a nuclear scientist who has the guts to turn their back on the industry, life gets hard in a hurry. Yet someone chose to risk their all to alert us to just how dangerous Trojan has become. Here is the story:

In 1990, 40 percent of Oregonians voted to close Trojan. PGE had survived the election by denying the charge made by longtime anti-nuclear activists Lloyd Marbet and Dan Meek that Trojan's steam generators were failing. Yet shortly after the election, the plant spent a year flat on its back, and the problem could no longer be denied. The steam tubes were cracking and splitting, and the situation would only get worse. Replacement of the steam generators would cost hundreds of millions of dollars, so the economic case for keeping the plant on line was also falling apart. Critics began comparing Trojan to the Titanic.

1992 was a rough year for PGE. The Don't Waste Oregon Committee was sponsoring their third state-wide initiative petition to kill the plant. More threatening was a second initiative sponsored by Marilyn and Jerry Wilson of Soloflex, which not only called for Trojan to be closed, but which would require PGE's shareholders to eat the massive cost for decommissioning. The Wilson's had put \$200,000 into the 1990 campaign, and were capable of spending much more. The initiatives appeared on the November ballot as Measure 5 and Measure 6.

In June of 1992, PGE announced that they had reached a "Memorandum of Understanding" with Westinghouse, which had supplied the failing steam generators. PGE would give up any legal claims against Westinghouse, which would replace the steam generators at its own cost and assume the duty of running the plant until the year

2011. Negative reaction to this deal was ferocious, and understandably so. Westinghouse had never before run a nuclear plant, and its management of the Hanford Nuclear Reservation in Washington has been a disgrace. Certainly, no other utility companies which were suffering with Westinghouse steam generators had chosen to go into partnership with the company. "About a third of the nuclear industry is suing Westinghouse for fraud, but PGE wants to hire them to take over operations at Trojan — you figure that one out!", proclaimed one activist. Even the *Oregonian*, which has long supported nuclear power, denounced the idea.

Like a wolf caught in a trap, PGE had to gnaw off a leg to escape. The company announced that the steam generators would not be replaced, and that the plant would close in 1996, 15 years ahead of its time. PGE pleaded with a skeptic public for time to develop alternative energy supplies. Opponents cited the dangers of running the plant with deteriorating tubes, and quoted a 1988 speech from an NRC commissioner who acknowledged that "a pressure transient or a seismic event" could "rupture a number of tubes simultaneously", making a plant with such defects a "loaded gun".

PGE assured the public that the defect had no safety implications whatsoever. But let's look at the events that have transpired since election day to see how these assurances have degenerated:

**November 3, 1992** The Wilsons' Measure 6 receives 43 percent of the vote; while Measure 5 gets 40 percent. In other words, Trojan had survived again.

**November 9** Trojan closes when a defective tube springs a leak. The leak is originally described as 100 to 200 gallons per day, but the figure is quietly upgraded a few days later to 7,200.

**November 10** NRC inspectors say that worker error is to blame for the leak, and that the plant is set to reopen in 10 days.

**November 23** Robert Pollard, a former NRC staffer, now with the Union of Concerned Scientists, releases an internal NRC memo showing dissent within the staff regarding the safety of operating Trojan. He describes the rating the scientists have given the problem as signifying "a high likelihood of an accident occurring with severe consequences to the public." Pollard questions why Trojan has been granted a waiver of safety regulations, allowing it to operate with 428 flawed tubes, at least 72 of them having cracks at least 90% of the original wall thickness. He asks that all relevant files be disclosed to the public.

The same day, PGE hastily calls together a group of government officials and energy activists, assuring them that the safety concerns are ancient history, and that recent tests by PGE prove that the plant was safe. Ken Harrison, PGE's president, refuses requests to delay a restart until all the relevant documents have been

released and publicly evaluated. There were many grim faces around the table, particularly among those who had opposed the ballot measures.

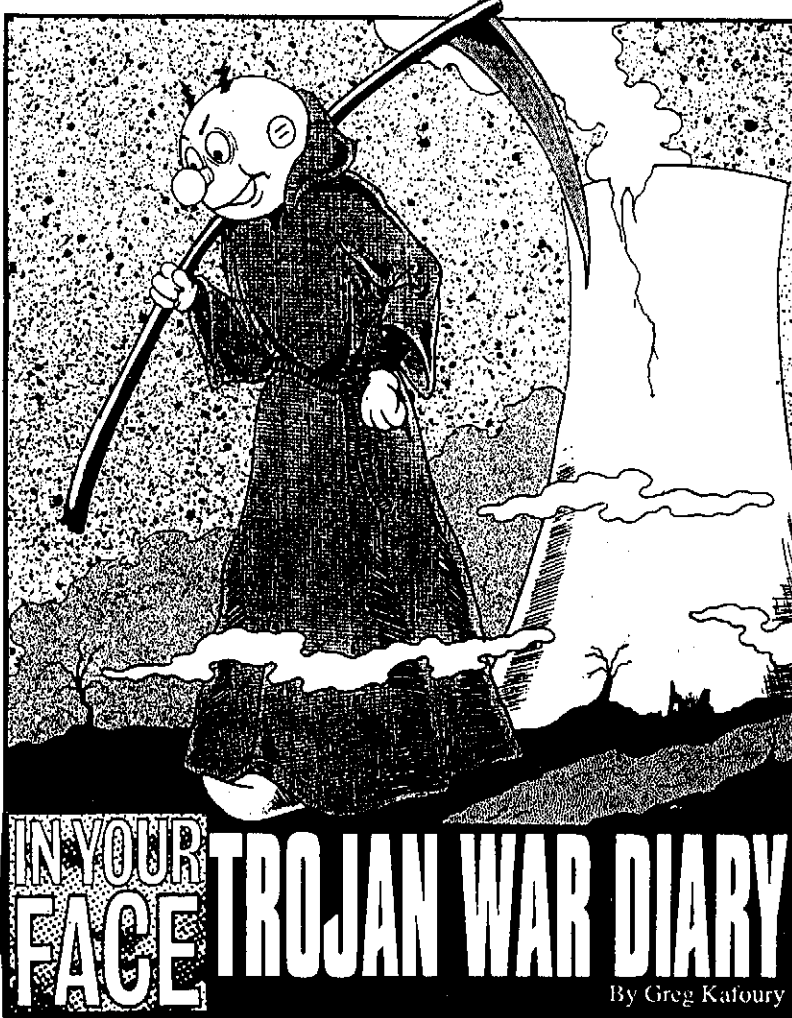
**November 24** State officials waste no time in rushing to PGE's defense. David Stewart-Smith, nuclear safety administrator for the Oregon Department of Energy, says that the data used by the dissidents is wrong or out-dated. The regional spokesman for the NRC agrees that there are no reasons to delay the reopening of Trojan, now only days away.

**November 29** News reports show that the chief licenser of nuclear plants for the NRC has rejected the internal study which questioned Trojan's safety, and marked it down from "high priority" to "low priority". It is called "crude" and "back of the envelope stuff."


**November 30** An *Oregonian* editorial headline proclaims "Trojan Passes Safety Test". It labels the episode a "brouhaha" and asks that the reactor, be fired up without delay.

**December 1** The second wave hits. A new batch of NRC memos are released, and these show that the opposition to a Trojan restart is not the opinion of one scientist, but of the entire office of Nuclear Reactor Regulation, and of the senior metallurgical engineer in charge of the NRC's Steam Tube Integrity Program. The official, Joseph Muscura, indicates that the existing technology is inadequate to detect more than half of the steam tube cracks, that measurements of their depth and length are "highly variable and inaccurate," and that the growth of cracks under operating conditions cannot not be predicted. The only way, then, to tell what would happen to the cracked steam generator tubes under operating conditions is to operate the plant. Furthermore, the new documents show that PGE's original cover story is a lie. Dissenting scientists are aware of PGE's recent tube experiments, and they have found them to be basically worthless. Finally, the documents show that even tiny leaks can cause sufficient loss of coolant to lead to a meltdown, all without a single tube actually rupturing.

The same day, a team of NRC officials hold a hearing at Trojan, with three members of the state's Energy Facility Siting Council (EFSC), the state agency with authority to shut the plant, in attendance. Most of the hearing is devoted to examining why the one tube ruptured on November 9. Afterward, the NRC's spokesman makes a few comments minimizing the rebellion inside his own agency, handed out a one-inch thick packet of technical reports, then asking the 60 or so assembled activists whether they have any questions. Questioners denounce the proceedings as being transparently in bad faith, and they demand to hear from the dissenting scientists. After being blown off, Lloyd Marbet and seven others march out to the main road leading to the plant, where they are arrested for trespassing.



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# TROJAN WAR DIARY

**December 3** Marbet and I have a telephone conversation with Mel Ferguson, head of the EFSC. Ferguson says that while EFSC members are perturbed that the dissenting scientists have not appeared, that it was the sense of the council that the plant should be allowed to restart without further ado. In support of his position, he cited NRC officials, and the November 30 editorial in the *Oregonian*. I immediately send a letter to the council members, noting that this was "obviously a maximum case for EFSC to take serious action," and suggesting that if they are not willing to keep the plant closed until they have examined all the documentation and heard from the dissenting scientists, that they should stop wasting public money creating a "false sense of security," to simply fold up their tent "and go home."

**December 4** Robert Pollard releases an analysis of the NRC's explanation for ignoring their own staff reports, listing a string of errors, omissions, and misrepresentations of the evidence. That morning, 27 activists, including both Marbet and myself, stand again on the road to Trojan to protest the reopening of the plant. Reporters at the scene tell us that the NRC had told them that morning that the plant would open within 24 hours. By the time most of us were released from jail that night, PGE had announced that after discussions with state and federal officials, they were going to keep the plant closed until January. "Further study" was required.

**December 9** The Oregon Department of Energy announces that the EFSC will hold a hearing in early January on the safety of Trojan, and that the NRC is "urged" to take part. Members of the public are invited to "submit written questions and comments." A large group of protestors gather at the PGE headquarters in Portland, demanding that the dissenting NRC engineers be produced, and that citizen groups be allowed to participate as parties in a full adjudicatory hearing.

It is announced the same day that Trojan now will not reopen until February.

How on earth can we take seriously those who are charged with the duty to protect us? Robert Pollard has done more for nuclear safety in Oregon in the last 20 days than all the paid officials of our Department of Energy have done in the last 20 years. He will not be allowed to question witnesses at the coming hearing. The extensive record built by Lloyd Marbet as a party to the licensing hearing on the proposed twin nuclear plants at Pebble Springs in the 1970s resulted in the plants being delayed for years, and eventually terminated. This saved Oregon rate-payers from the kind of multi-billion dollar disaster that afflicted the State of Washington, with the terminated WPPS plants. Yet "if Marbet has a question, he can put it in writing." When state regulators tried to give hundreds of millions of dollars in unearned rate increases to PGE and Pacific Power & Light, attorneys Dan Meek and Linda Williams stopped them in their tracks. Meek and Williams will get to cross-examine no one at the EFSC hearing.

This is not happening because the EFSC members are stupid or corrupt — it is simply that they are timid beyond belief, and that they have not yet figured out what this game is all about. They think of the NRC officials as professional colleagues, people who share their desire to learn the truth. They cannot grasp that this has nothing to do with science, and everything to do with money and political power. It is those at the political top of the NRC who are overruling the scientific specialists, and the commissioners they serve were selected because they were industry lap dogs. PGE, for its part, knew about the dissenting NRC opinions, but kept it secret through the election, and beyond.

Pleased to be treated with deference by such exalted characters, our EFSC is simply incapable asking a witness to swear an oath, allowing an anti-nuclear opponent to bear down on a government witness, or demanding that the dissenting engineers appear and testify fully before a restart of Trojan will be considered. They just don't have the stuff for a serious inquiry, so it is necessary that citizens increase their level of discomfort until they change their minds.

Those who wish to join our effort should contact Colleen O'Neil at 232-3575, Kellie Petersen at 281-5297, Greg Tozian of Soloflex at 640-8891, or Peter Bergel with Peace Works at 585-2767, in Salem.

Those with no time to spare can also help by calling the following people: Governor Barbara Roberts, 1-800-322-6345; Christine Irvin, head of the Oregon Department of Energy, 1-800-221-8035; Mel Ferguson, chair of the EFSC, 884-9153; Clarissa Beatty, EFSC, at 222-5372; Molly Bloomfield, 752-1868; Terry Edvalson, EFSC, 962-3755; Thomas Hayes, EFSC, 752-1071; Marlene Bayless Mitchell, EFSC, 653-1260; and Steven Schell, 224-5560.

#### A FINAL WORD

When we were told on the morning of December 4th that the plant would reopen in a day, the NRC explained that PGE had some testing data that would take that long to evaluate. We are now told that the plant will be closed for two months, yet the explanation for the delay is unchanged. That means that our letters, arrests, the calls we have been making to politicians, all have had an effect. There are eight nuclear plants either operating or about to operate with these same defects. We have a new President. The fate of the nuclear industry is very much up for grabs. What we do matters.

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