

California Could Suffer a Fukushima-Style Meltdown

U.S. Ignoring Earthquake Risks to Nuclear Plants

By [Washington's Blog](#)

Global Research, November 02, 2014

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Region: [USA](#)

Theme: [Environment](#), [Oil and Energy](#)

Scientists [warned](#) that an earthquake could take out Fukushima. The Japanese [ignored the warning](#).

(The Fukushima reactors were [damaged by the earthquake before the tsunami hit](#), because the design of the reactors was [defective](#).)

But that couldn't happen in the U.S. ... right?

Well, the engineers who built the Fukushima reactors also built a nuclear reactor at Shoreham, New York ... which is highly [vulnerable to an earthquake](#):

The plant was riddled with problems that, no way on earth, could stand an earthquake. The team of engineers sent in to inspect found that most of these components could **"completely and utterly fail"** during an earthquake.

[Indeed](#):

(1) the company fraudulently changed the seismic report to pretend the plant was earthquake-safe;

and

(2) the exact same thing was done at Fukushima.

And the [same company](#) that designed the failed Fukushima plants and the vulnerable Shoreham facility is:

the designated builder for every one of the four new nuclear plants that the Obama Administration has approved for billions in federal studies.

But surely the U.S. government agencies regulating nuclear plants are protecting us from earthquake danger?

Well, no ...

U.S. regulators [haven't implemented any](#) of the emergency measures which their staff urgently recommended in the wake of the Fukushima disaster, and have

actually [weakened safety standards](#) for U.S. nuclear reactors after the Fukushima disaster.

Indeed, the Nuclear Regulatory Commission is a pro-industry group which is [largely funded by the nuclear companies](#). (This is true of [all nuclear agencies](#)).

The NRC is using obviously-faulty models to [pretend that the ancient, crumbling reactors are safe](#).

David Lochbaum - Director of the Nuclear Safety Project for the Union of Concerned Scientists, who worked as a nuclear engineer for nearly two decades, and has written numerous articles and reports on various aspects of nuclear safety and published two books - says that [27 U.S. nuclear plants](#) aren't protected against earthquake risks. (He also [says](#) that half of all American reactors don't meet the NRC's fire protection regulations, a third aren't protected against flooding if an upstream dam fails).

Indeed, NRC whistleblowers say that the risk of a nuclear meltdown is even [higher in the U.S. than it was at Fukushima](#).

The former head of the NRC [says](#):

- The current fleet of operating plants in the US should be phased out because regulators can't guarantee against an accident causing widespread land contamination.
- The biggest problem with the NRC continues to be the heavy influence that the industry has in selecting the members of the commission. It is a very political process. There are few commissioners who ever get onto the commission who are not endorsed by the industry.

Moreover, regulators allow earthquake-causing fracking to be conducted [within 500 feet of nuclear plants](#).

The NRC has [repeatedly covered up](#) for the nuclear industry. For example, NBC News [reports](#):

In the tense days after a powerful earthquake and tsunami crippled the Fukushima Daiichi power plant in Japan on March 11, 2011, staff at the U.S. Nuclear Regulatory Commission made a **concerted effort to play down the risk of earthquakes and tsunamis to America's aging nuclear plants**

The emails, obtained via the Freedom of Information Act, show that **the campaign to reassure the public about America's nuclear industry came as the agency's own experts were questioning U.S. safety standards** and scrambling to determine whether new rules were needed to ensure that the meltdown occurring at the Japanese plant could not occur here.

There are numerous examples in the emails of apparent misdirection or concealment in the initial weeks after the Japanese plant was devastated ... :

- Trying to distance the U.S. agency from the Japanese crisis, an NRC manager told staff to hide from reporters the presence of Japanese

- engineers in the NRC's operations center in Maryland.
- If asked whether the Diablo Canyon Power Plant on the California coast could withstand the same size tsunami that had hit Japan, spokespeople were told not to reveal that NRC scientists were still studying that question. As for whether Diablo could survive an earthquake of the same magnitude, "We're not so sure about, but again we are not talking about that," said one email.
 - When skeptical news articles appeared, **the NRC dissuaded news organizations from using the NRC's own data on earthquake risks at U.S. nuclear plants**, including the Indian Point Energy Center near New York City.

Similarly, nuclear engineer Arnie Gundersen and others [pointed out](#) in a roundtable discussion:

- The NRC purposely delayed starting its earthquake study for Indian Point nuclear power plant in New York until after relicensing was complete in 2013, because the NRC didn't consider a big earthquake "a serious risk"
- Congressman Markey has said there is a cover up. Specifically, Markey alleges that the head of the NRC told everyone not to write down risks they find from an earthquake greater than 6.0 (the plant was only built to survive a 6.0 earthquake)

California: At Risk

But surely California - that environmental haven - has better nuclear safety standards?

Nope ...

In 2011, the California Energy Commission held hearings concerning the state's nuclear safety. During those hearings, the Chairman of the Commission asked government experts whether or not they felt the state's nuclear facilities could withstand the maximum credible quake. The response was that they [didn't know](#).

The same year, KCET public television [reported](#):

[PG&E Acknowledges Seismic Uncertainty at Diablo Canyon at Public Hearing, Maintains They Have No Concern.](#)

On Tuesday, The San Luis Obispo Tribune featured an article describing Diablo's back-up cooling systems that are **designed to function during an emergency similar to one experienced at Fukushima**.

Controversy relating to the Diablo plant was also [featured in the Huffington Post](#) where it was pointed out that **PG&E was not required to include earthquake procedure in its emergency response plan**.

California State Senator Sam Blakeslee (R, San Luis Obispo, 15th District) is a **geophysicist with a PhD in earthquake studies** and is a member of

the California State Senate Select Committee on Earthquake and Disaster Preparedness. During this week's hearing, he **repeatedly asked PG&E to withdraw its license renewal application and perform a new seismic study of the** [Diablo Canyon nuclear site]. The known presence of the Hosgri earthquake fault, two and a half miles away, and the newly detected fault that runs within a mile of the plant should be thoroughly charted and studied before PG&E applies for a license renewal.

In August, CBS [reported](#):

A senior federal nuclear expert is urging regulators to shut down California's last operating nuclear plant until they can determine whether the facility's twin reactors can withstand powerful shaking from any one of several nearby earthquake faults.

Michael Peck, who **for five years was Diablo Canyon's lead on-site inspector**, says in a 42-page, confidential report that the Nuclear Regulatory Commission is not applying the safety rules it set out for the plant's operation.

What's striking about Peck's analysis is that it comes from within the NRC itself

The conflict between Peck and his superiors stems from the 2008 discovery of the Shoreline fault, which snakes offshore about 650 yards from the reactors. A larger crack, the Hosgri fault, had been discovered in the 1970s about 3 miles away, after the plant's construction permits had been issued and work was underway. Surveys have mapped a network of other faults north and south of the reactors.

According to Peck's filing, PG&E research in 2011 determined that **any of three nearby faults - the Shoreline, Los Osos and San Luis Bay - is capable of producing significantly more ground motion during an earthquake than was accounted for in the design of important plant equipment.** In the case of San Luis Bay, it is as much as 75 percent more.

Those findings involve estimates of what's called peak ground acceleration, a measurement of how hard the earth could shake in a given location. The analysis says **PG&E failed to demonstrate that the equipment would remain operable if exposed to the stronger shaking, violating its operating license.**

Peck, who holds a doctorate in nuclear engineering and is now a senior instructor at the NRC's Technical Training Center in Tennessee, declined to comment on the filing.

The Ecologist [writes](#):

An earthquake on nearby geological faults could trigger a **Fukushima-scale accident causing 10,000 early fatalities. The owner's response? Apply to extend the site's operation for another 20 years.**

It's apparent to any visitor to the stretch of California where the two Diablo Canyon plants are sited that it is geologically hot. A major tourist feature of the area: hot spas.

"Welcome to the Avila Hot Springs", [declares the website](#) of one, noting how "historic Avila Hot Springs" was "discovered in 1907 by at the time unlucky oil drillers and established" as a "popular visitor-serving natural artesian mineral hot springs."

Nevertheless, Pacific Gas & Electric had no problem in 1965 picking the area along the California coast, north of Avila Beach, as a location for two nuclear plants.

It was known that the San Andreas Fault was inland 45 miles away. But in 1971, with construction already under way, oil company geologists discovered another earthquake fault - the Hosgri Fault, just three miles out in the Pacific from the plant site and linked to the San Andreas Fault.

In 2008 yet another fault was discovered, the Shoreline Fault - **just 650 yards from the Diablo Canyon plants.**

Michael Mariotte, president of the Nuclear Information & Resource Service, commented Monday that in "plain English" what Peck's report acknowledges is:

"The NRC does not know whether Diablo Canyon could survive an earthquake, within the realm of the possible, at any of the faults around Diablo Canyon. And the reactors should shut down until the NRC does know one way or the other.

And Friends of the Earth [noted](#) in October:

On September 10, PG&E released a long-awaited seismic study, the Central Coastal California Seismic Imaging Project, which revealed that earthquake faults surrounding Diablo Canyon are **both larger and interconnected and therefore capable of far greater ground motion than had been known before.** Nonetheless, PG&E claimed that the reactors could "withstand the ground motions that would be produced by potential earthquakes" from these nearby faults.

FOE has filed suit to shut down Diablo Canyon:

In a petition filed with the California Public Utilities Commission in late September, Friends of the Earth called for a ratemaking investigation into whether or not the expensive and aging Diablo Canyon power plant should be closed and replaced by cheaper, renewable energy and efficiency measure. In a statement, former TVA [Tennessee Valley Authority] head David Freeman called for an end to the "benefits of a sweetheart deal that forces consumers to pay whatever the [PG&E] spends plus a guaranteed return on investment." [Indeed, nuclear power is a form of crony capitalism, where taxpayers fund an industry which would [not even exist in a free market.](#)]

Prompted by the seismic report, which found that the Shoreline Fault was twice as long as previously thought, Friends of the Earth filed a petition to the NRC on October 10, intervening in the process to allow the Diablo Canyon reactors to run another 20 years.

On October 28, Friends of the Earth petitioned the U.S. Court of Appeals to overturn the NRC's secret, illegal decision to alter the Diablo Canyon plant's license, a move revealed one month earlier in the agency's rejection of Dr. Peck's DPO. The change, made without public notice in September 2013, altered the way the NRC assesses earthquake risks at the plant without following the agency's own rules or the federal law

[Like Fukushima](#), Diablo Canyon holds [thousands of radioactive fuel rods in pools](#). If power is cut off, the fuel rods would release their radioactivity within a couple of days.

Take action: Sign a petition to shut down Diablo Canyon [here](#).

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