

Nuclear Regulatory Commission Is Using Obviously Faulty Models to Pretend Crumbling Nuclear Reactors Are Safe

By [Washington's Blog](#)

Global Research, August 12, 2013

[Washington's Blog](#)

Region: [USA](#)

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

Ignoring Basic Engineering Science Puts Us All At Risk

Faulty assumptions by America's financial regulators [led to the 2008 crash ... and many other disastrous results](#).

Similarly, America's main nuclear regulator – the Nuclear Regulatory Commission – made numerous assumptions before Fukushima that turned out to be totally false. For example, the NRC wrongly assumed:

- (1) The containment vessels in nuclear reactors [always maintain their containment](#). In reality, Fukushima's reactors [lost all containment](#)
- (2) If radioactive gasses leak, they can only leak a maximum of 1% of their radioactive fuel per day. In reality, Fukushima's lost [300% per day](#). In other words, the radioactive gases were leaving the containment every 8 hours

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 – explained to Washington's Blog some *major* erroneous assumptions that the NRC is making today about American nuclear plants:

The NRC has made some flawed assumptions. If you look at the chance of failure for a car, lightbulb or power plant, it's governed by what's called the "bathtub curve". Specifically, the chance of failure is high early on due to material imperfections or assembly errors or the user just doesn't know how to use the new "widget". So there's a break-in phase.

On the other side of the curve, the failure rate starts increasing again due to wear-out phase, due to aging, rusting, etc.

The NRC has been using that flat middle portion to justify reducing the frequency of inspections ... even knowing that all of the plants are heading towards, if not already in, the wear-out phase, where the rate of failure starts increasing again.

So if you reduce the frequency based on the flat part of the curve, you may not be testing often enough, and things may break before you inspect and replace them.

In other words, the NRC is ignoring one of the fundamental laws of engineering science ... which is [putting us all at risk](#).

Moreover, Lochbaum explained that the enormous power the government has to create incentives is leading to unsafe nuclear plants:

[Q] I understand that president Obama announced a nuclear renaissance in the U.S.

[A] This year alone we had 4 nuclear power reactors shut down due to unfavorable economics. A number of other plants that were proposed were cancelled due to costs. [[Background](#).]

Many of the existing reactors have been operated with up to a 20% higher power level than they originally were built for or licensed for.

Many have already been that way and there's also a few applicants that have submitted requests to the NRC to do upgrades at their plant.

In addition, more than three-quarters of existing reactors have sought and obtained 20 year extensions to the original 40-year operating lifetimes, and the others are in the process of doing so as well.

There's now talk of going from 60 to 80 years. Nobody has done that yet, but there's some talk of that.

The industry's success in boosting operating output from existing plants and extending the life of the plants has been a major factor in preventing new reactors from being deployed, because you've pushed off the need for replacements.

[Q] Would the new reactors be safer in your view?

[A] Actually not, and it was actually the Federal government that prevented that, even though that was not their intent.

Back in 1957, the Federal government passed what is called the Price-Anderson Act, which provides federal liability insurance for plant owners and vendors.

Because of that – whether you're the safest or the least safe reactor in the world – you pay the same insurance rate. In a more unrestricted marketplace, you have a safer car or a safer feature, your insurance premium is lower. So therefore a buyer can say "Yeah, it costs a little more up front, but I pay for that in 5 or 10 years down the road.

If you come up with a better mousetrap that costs more, the purchaser doesn't get anything back.

So new reactors could be safer, because we're smarter and we've learned more. But [federal insurance] makes it harder to sell, because the competitor down the road may not do that.

If a plant owner is looking at whether it would cost more to upgrade a 40 year old plant or to spend a little more to build a brand new reactor, the government is providing incentive for less safe things.

The government is not really doing right by the American public.

[Q] The government is not providing the correct long-term incentives to make smart decisions?

[A] Correct.

[Q] My impression is that the old reactors in the U.S. are more or less falling apart piece-by-piece. [[Background](#).] And that they are so far past their original projected operating life that issues like corrosion and broken parts are catching up to them. Is that true technically?

[A] It is. Some of the owners are doing the care and upkeep to protect their investment.

But some owners – just because they don’t have enough money, or they’re short-sited, and just looking at this quarter’s bottom line – aren’t making those investments.

That’s where the NRC is supposed to step in and protect the public from degradation. But they’ve not shown a particularly aggressive role in that regard.

In March 2012, a senator asked the NRC whether Fukushima could happen here. NRC responded “no”. In fact, an NRC study had shown that if a certain dam in the U.S. fails, there’s a 100% chance that 3 reactors would melt down.

I personally think that the answer that Americans want to hear is the truth. “Yes, there’s a chance it could happen here, but here’s what we’re doing to fix it.” I think the public would have been reassured by that ... not by the lies [that the NRC gave].

Lochbaum also explained that In extending the lifetimes of existing plants, one of the things that the NRC *doesn’t* do is go back and look at the rules themselves. Specifically, the NRC has grandfathered some reactors in ... saying that new safety upgrades won’t be required, because the plant is nearing the end of its operating life.

But when the NRC grants a 20-year extension to the plant, it *doesn’t go back* to look at what safety problems the plant may have had *before* getting grandfathered in. In other words, the NRC *sweeps all past safety issues under the rug* ... and irrationally *pretends* that the plant was in perfect shape when it’s renewal license was issued through the grandfather process. That false assumption also violates basic engineering principles.

If we don’t force the NRC to use sound engineering analysis, we might suffer a Fukushima-size nuclear accident ... [or worse](#).

The original source of this article is [Washington's Blog](#)

Copyright © [Washington's Blog](#), [Washington's Blog](#), 2013

[Comment on Global Research Articles on our Facebook page](#)

[Become a Member of Global Research](#)

Disclaimer: The contents of this article are of sole responsibility of the author(s). The Centre for Research on Globalization will not be responsible for any inaccurate or incorrect statement in this article. The Centre of Research on Globalization grants permission to cross-post Global Research articles on community internet sites as long the source and copyright are acknowledged together with a hyperlink to the original Global Research article. For publication of Global Research articles in print or other forms including commercial internet sites, contact: publications@globalresearch.ca

www.globalresearch.ca contains copyrighted material the use of which has not always been specifically authorized by the copyright owner. We are making such material available to our readers under the provisions of "fair use" in an effort to advance a better understanding of political, economic and social issues. The material on this site is distributed without profit to those who have expressed a prior interest in receiving it for research and educational purposes. If you wish to use copyrighted material for purposes other than "fair use" you must request permission from the copyright owner.

For media inquiries: publications@globalresearch.ca