

Letting Tepco “Clean Up” Fukushima Is Like Letting a Murderer Do Brain Surgery On a VIP

By [Washington's Blog](#)

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In 3 Months, Do We Want to Entrust U.S. “National Security” and Perhaps Even “Human Survival” In the Northern Hemisphere to These Guys?

If an incompetent doctor killed numerous patients doing routine surgery – and then lied and tried to cover it up – would you let him perform brain surgery on a VIP such as the president?

Of course not?

So why are we letting Tepco to remove the fuel rods from Fukushima?

Tepco has an *abysmal* track record:

- [Engineers warned Tepco and the Japanese government many years before the accident](#) that the reactors were seismically unsafe ... and that an earthquake could wipe them out
- The Fukushima reactors were [fatally damaged before the tsunami hit ... the earthquake took them out even before the tidal wave hit](#)
- An official Japanese government investigation concluded that the Fukushima accident was a [“man-made” disaster, caused by “collusion” between government and Tepco and bad reactor design](#)
- Tepco knew right after the 2011 accident that [3 nuclear reactors had lost containment](#), that the nuclear fuel had [“gone missing”](#), and that there was in fact [no real containment](#) at all. Tepco has desperately been trying to cover this up for 2 and a half years ... instead [pretending](#) that the reactors were in “cold shutdown”
- Tepco just admitted that it’s [known for 2 years](#) that massive amounts of radioactive water are leaking into the groundwater and Pacific Ocean
- Tepco – with [no financial incentive](#) to actually fix things – has only been [pretending](#) to clean it up. And [see this](#)
- Tepco’s recent attempts to solidify the ground under the reactors using

chemicals has [backfired horribly](#). And NBC News [notes](#): “[Tepco] is considering freezing the ground around the plant. Essentially building a mile-long ice wall underground, something that’s never been tried before to keep the water out. One scientist I spoke to dismissed this idea as grasping at straws, just more evidence that the power company failed to anticipate this problem ... and now cannot solve it.”

And yet Tepco is going to attempt the equivalent of brain surgery on the president.

Specifically – as we noted in 2012 – the [greatest short-term threat to humanity](#) is from the fuel pools at Fukushima.

If one of the pools collapsed or caught fire, it could have severe adverse impacts on the United States. Indeed, a Senator called it a [national security concern for the U.S.](#):

The radiation caused by the failure of the spent fuel pools in the event of another earthquake could reach the West Coast within days. That absolutely makes the safe containment and protection of this spent fuel a security issue for the United States.

Nuclear expert [Arnie Gundersen](#) and physician [Helen Caldicott](#) have both said that people should evacuate the Northern Hemisphere if one of the Fukushima fuel pools collapses. Gundersen said:

Move south of the equator if that ever happened, I think that’s probably the lesson there.

Former U.N. adviser Akio Matsumura calls removing the radioactive materials from the Fukushima fuel pools [“an issue of human survival”](#).

So the stakes in decommissioning the fuel pools are high, indeed.

But – in 3 months – Tepco is going to start doing this very difficult operation on its own.

Reuters [reports](#) today:

The operator of Japan’s crippled Fukushima nuclear plant is preparing to remove 400 tons of highly irradiated spent fuel from a damaged reactor building, a dangerous operation that has never been attempted before on this scale.

Containing radiation equivalent to 14,000 times the amount released in the atomic bomb attack on Hiroshima 68 years ago, more than 1,300 used fuel rod assemblies packed tightly together need to be removed from a building that is vulnerable to collapse, should another large earthquake hit the area.

Tokyo Electric Power Co (Tepco) is already in a losing battle to stop radioactive water overflowing from another part of the facility, and experts question whether it will be able to pull off the removal of all the assemblies successfully.

"They are going to have difficulty in removing a significant number of the rods," said Arnie Gundersen, a veteran U.S. nuclear engineer and director of Fairewinds Energy Education, who used to build fuel assemblies.

The operation, beginning this November at the plant's Reactor No. 4, is fraught with danger, including the possibility of a large release of radiation if a fuel assembly breaks, gets stuck or gets too close to an adjacent bundle, said Gundersen and other nuclear experts.

That could lead to a worse disaster than the March 2011 nuclear crisis at the Fukushima plant, the world's most serious since Chernobyl in 1986.

No one knows how bad it can get, but independent consultants Mycle Schneider and Antony Froggatt said recently in their World Nuclear Industry Status Report 2013: "Full release from the Unit-4 spent fuel pool, without any containment or control, could cause by far the most serious radiological disaster to date."

The utility says it recognizes the operation will be difficult but believes it can carry it out safely.

Nonetheless, Tepco inspires little confidence. Sharply criticized for failing to protect the Fukushima plant against natural disasters, its handling of the crisis since then has also been lambasted.

The process will begin in November and Tepco expects to take about a year removing the assemblies, spokesman Yoshikazu Nagai told Reuters by e-mail. It's just one installment in the decommissioning process for the plant forecast to take about 40 years and cost \$11 billion.

Each fuel rod assembly weighs about 300 kilograms (660 pounds) and is 4.5 meters (15 feet) long. There are 1,331 of the spent fuel assemblies and a further 202 unused assemblies are also stored in the pool, Nagai said.

Spent fuel rods also contain plutonium, one of the most toxic substances in the universe, that gets formed during the later stages of a reactor core's operation.

"There is a risk of an inadvertent criticality if the bundles are distorted and get too close to each other," Gundersen said.

He was referring to an atomic chain reaction that left unchecked could result in a large release of radiation and heat that the fuel pool cooling system isn't designed to absorb.

"The problem with a fuel pool criticality is that you can't stop it. There are no control rods to control it," Gundersen said. "The spent fuel pool cooling system is designed only to remove decay heat, not heat from an ongoing nuclear reaction."

The rods are also vulnerable to fire should they be exposed to air, Gundersen said. [The pools have already [boiled due to exposure to air.](#)]

Tepco has shored up the building, which may have tilted and was bulging after the explosion, a source of global concern that has been raised in the U.S. Congress.

The fuel assemblies have to be first pulled from the racks they are stored in, then inserted into a heavy steel chamber. This operation takes place under water before the chamber, which shields the radiation pulsating from the rods, can be removed from the pool and lowered to ground level.

The chamber is then transported to the plant's common storage pool in an undamaged building where the assemblies will be stored.

[Here is a [visual tour of Fukushima's fuel pools](#), along with graphics of how the rods will be removed.]

Tepco confirmed the Reactor No. 4 fuel pool contains debris during an investigation into the chamber earlier this month.

Removing the rods from the pool is a delicate task normally assisted by computers, according to Toshio Kimura, a former Tepco technician, who worked at Fukushima Daiichi for 11 years.

"Previously it was a computer-controlled process that memorized the exact locations of the rods down to the millimeter and now they don't have that. It has to be done manually so there is a high risk that they will drop and break one of the fuel rods," Kimura said.

Corrosion from the salt water will have also weakened the building and equipment, he said.

And if another strong earthquake strikes before the fuel is fully removed that topples the building or punctures the pool and allow the water to drain, a spent fuel fire releasing more radiation than during the initial disaster is possible, threatening about Tokyo 200 kilometers (125 miles) away.

What's the bottom line?

Top scientists and government officials say that [Tepco should be removed from all efforts](#) to stabilize Fukushima. And [an international team of the smartest scientists](#) should handle this difficult "surgery".

Note 1: Americans should not assume that we can't have any effect on internal Japanese politics. It is the [American government which is calling the shots in terms of Japanese nuclear policy ... and has been for many decades](#).

Note 2: This situation is [identical to the financial crisis, mass surveillance by the NSA and other scandals](#). Specifically, no amount of debate can fix the problem. If we don't fire the people who caused the problems in the first place – and have no motivation to actually fix things – they will never get fixed.

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