

## Fukushima Update, Autumn 2013

In the last few weeks, the mainstream media has started to catch up with what a shambles Fukushima has become. In July '13, those following the numbers closely were getting shocked. 3<sup>rd</sup> July – 4,300,000 Bq/l six metres from the sea. 5<sup>th</sup> July – 900,000,000 Bq/l in the test hole next to it. Then came a vital admission; the water in the test bore holes was rising and falling with the tide, and contained lots of salt. Oh dear; its directly connected with the sea. Tepco must have known that for months, yet didn't say. Then they tried to explain it by saying it was from a trench connecting reactor 2 with the sea, which they now admit has a gravel bottom, and which they have done nothing about since March 2011. When all this delight began. I thought, as did most, that their 'concrete trench' had a concrete bottom, which I suspected was probably cracked by the earthquakes. A gravel bottom? Are these people six year olds? They build four nuclear plants on an old river, filled in with sand and gravel, and then leave lethal water lying around for 2 ½ years in a trench with a gravel bottom? With a thousand tons of water flowing through under the site every day to the sea? But it turns out it's worse than that..

They built a wall by injecting chemicals into the ground, between the reactors and the sea. These chemicals are hardened by the pressure of the soil, and can't be built less than 1.8 metres underground. Meanwhile, 1000 tons of groundwater a day are flowing into the site from the mountains. So, the groundwater quickly builds up behind the wall, flowing over the top of it, and approaching the surface as it builds up. Didn't they know that if you dam a river, underground or not, the water will build up and slosh over it? So the wall stops nothing getting to the sea, and is turning the ground marshy and unstable as water builds up. And is radioactive. So now the whole reactor buildings are sitting in what is becoming mud and quicksand. Which will wobble like jelly come the next earthquake. So why didn't they dam this underground river upstream? They talked of a wall of ice upstream of the reactors, but it'll take at least two years to build. The plan is to inject liquid nitrogen through pipes set in the ground. Pipes vulnerable to the next earthquake.

So they dug some wells upstream of the plants in the meantime, to pump out some groundwater. But now the water from these is coming up radioactive, so they have to dig some more further upstream. Another few months. And showing the presence of a huge, ever-growing bubble of deadly water under the plants, edging constantly towards the sea, and to a degree moving inland as it swells.

The Japanese have created a huge, unstoppable machine for producing hundreds of tons of lethal water a day and chucking it into the Pacific. It has no 'off' switch, and will run for hundreds of years. A massive civil engineering effort may reduce outflow, by intercepting and diverting groundwater while its still clean, by closing in the port, by treating more water, but Tepco spends as little as possible, lies about events, fudges data, and the Japanese government does nowt. It has already bailed out Tepco for more than Tepco is worth, so it owns Tepco, yet keeps it there as a scapegoat for when things get even worse just down the line. And the governments main interest is to reopen their other 44 reactors, which is why they constantly make light of the catastrophe. 'Keep smiling, as a positive attitude will help you through' is their advice. There is a lot of money involved in nukes, so they feel unable to change course. So the citizens of Japan and of the world are asked to just silently absorb in place..

As an example, Tepco found out on wednesday 17<sup>th</sup> July they were leaking 300 tons a day into the sea, yet didn't announce it till the following monday 22<sup>nd</sup> July. There was an Upper House election on the friday, the 19<sup>th</sup>. Because, said Tepco, they wanted to spend the weekend checking the numbers, as they knew it would cause 'great consternation'. 'Nothing to do with the election', asked the press? 'Of course not', said Tepco. Yeah right..

Another example: great excitement this week when they announced radiation is up 18 times at a leaking tank. Real reason is that they first measured it with a machine that only went to 100 mSv/h. So they announced it as 100. Then they measured it again with a machine that can measure higher, and then said 'Oh, its actually 1,800 mSv/h'. World press reported this as a sudden jump in radioactivity. Clog up the discussion with little snippets of misinformation and misunderstanding... The very company whose incompetence caused all this is left in charge of cleaning up the crime scene, and are devoting themselves to hiding all evidence of their culpability through smoke screens and number fudging. Its a Japanese thing, called the nuclear village... Bureaucrats' careers and huge salaries are at stake, so the rest of us can just eat and breath radiation..

And we still have spent fuel pool number four to worry about. They are about to start (in November '13) removing the 300kg fuel rods, 1535 of them. 400 tons altogether. The rods are probably cracked, possibly already burnt, are bent, have been resting in sea water for 2 ½ years, will be partly rusted in place. Should one break, or bump against others, you could get the nuclear reaction starting up again, and with no control rods present you couldn't turn it off. It'll take them a few years to remove them all, and if it goes wrong or if another big (greater than magnitude 7) earthquake hits, they could yet lose Tokyo. Seriously. That is the risk that these infernal machines bring with them. The guys hand-operating the removal machinery will be in full protective gear, will be hot, vision reduced by goggles, hearing impaired, working probably with new co-workers as turnover there is very high, and will be knowing one error could mean he is the one who caused the loss of Tokyo. Not just loss of face; loss of Tokyo. Nice job...

Meanwhile the 1000 tanks holding 340,000 tons of lethal water on site, are starting to leak as well. One leaked 300 tons last week, into sea and soil-then-sea. It sits in a concrete pan, which has a drain tap to let out rainwater, which they left open all the time, to save labour costs. Not only are 300 of them built from bolt-together sections with deteriorating gaskets, their bases are also built from sections, whose bolts are inside the tanks, under the lethal water that no-one can approach, so cant be tightened as they leak. But they were cheaper, so that's what we get. Of course, 1000 ton bolt-together tanks don't hold up well to being jiggled around by an earthquake, and this is an earthquake zone, but we'll discover that later.

What can be done? It's probably too late. A serious effort two years back might have helped, but the Japanese body-politic couldn't manage to admit it had a grievous problem, so did almost nothing. A large crude carrier off the coast might be better than 1000 tanks on shore, but then a typhoon could sink the lot in one go which would be worse. The answer is not to build these things in earthquake zones, on exposed coasts, on gravel beds, over old river beds, or actually anywhere else. One bad day and they wreck your nation. For daily updates, visit [enenews.com](http://enenews.com) or [fukushimadiary.org](http://fukushimadiary.org) or [fukuleaks.org](http://fukuleaks.org) or [Januk.org](http://Januk.org).