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Fukushima - Two Years On 福島―その二年後

David McNeill

Between 2012 and 2014 we posted a number of articles on contemporary affairs without giving them volume and issue numbers or dates. Often the date can be determined from internal evidence in the article, but sometimes not. We have decided retrospectively to list all of them as Volume 10, Issue 54 with a date of 2012 with the understanding that all were published between 2012 and 2014.

David McNeill

Two years after the March 11 earthquake and tsunami triggered the planet's worst's nuclear disaster since Chernobyl, journalists are still often asked: is the crisis over? One plausible reply might be that it has just begun.

While the threat of another catastrophic release of radiation has receded, perhaps for good, the long, complex struggle to safely remove nuclear fuel from the reactor basements of the Fukushima Daiichi plant is still in its early stages. Reactors still seep radiation, although at a rate of 10 million Becquerel per hour for cesium versus about 800 trillion right after the disaster, according to Reuters. The level outside reactor 3 is 1,710 microsieverts an hour, enough to quickly induce radiation sickness. But radiation around the complex has fallen by about 40 percent in the last year, says operator Tokyo Electric Power Co. (TEPCO).

Plant manager Takahashi Takeshi has again predicted that safely dismantling the six-reactor facility will take up to 40 years. "Radiation levels at units one, two and three are very high and the cause of that is the fuel that has melted inside the reactors," he said during a rare media tour of the plant on March 6. "Radiation levels within the buildings are all very high, although the level at Unit 4 is lower." He insisted that the ruined No. 4 reactor building, containing 1,530 highly toxic fuel rods, would withstand another earthquake, despite doomsday predictions by some.

He said the unit's fuel cooling pool has been reinforced and could resist a quake equivalent to the one that struck on March 11, 2011. Reporters were shown a huge steel structure under construction right next to Unit 4. Engineers explained it will eventually be fitted with a giant crane to lift out the spent fuel rods stored in the top of the Unit 4 building. Takahashi said the fuel removal would begin in November.

The twisted steel frame of Unit 3, now partially covered with huge gray steel panels, is still visible from the hydrogen explosion that ripped the building apart. Two large unmanned cranes stand next to the unit, clearing up the debris on the top floor, where some 500 spent fuel rods are kept in a pool. Another 6,300 fuel rods are stored in a common pool nearby.

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Daiichi's nuclear fuel is kept cool by thousands of gallons of water pumped every day which engineers are struggling to decontaminate. Over 930 water tanks, each holding 1000 tons, have mushroomed at the plant. Engineers said a single tank fills once every two and a half days. A huge structure with lines of Toshiba-designed filtering equipment labors to remove 62 different types of radioactive materials from the water. There is nowhere else for the water to go.

There are widespread reports of shortages of labor at the plant and in the surrounding areas. Reuters says that 70 percent of a sample of workers surveyed by TEPCO late last year made more than 837 yen per hour, roughly equivalent to the hourly remuneration at convenience stores in Japan. The news agency says that as of the end of December 2012, 146 TEPCO workers and 21 contract workers "had exceeded the maximum permissible exposure of 100 millisieverts in five years."

Estimates of the cost of clearing up from the disaster keep rising. Some experts believe compensation could double from its current estimates to 10 trillion yen. Not a single one of the approximately 160,000 nuclear refugees has been fully compensated for the loss of their property, land and income. The Japan Center for Economic Research, a Tokyo-based think tank, has estimated that decontamination costs alone in the Fukushima residential area could balloon to as much as $600 billion. TEPCO was nationalized in 2012 so much of the burden of paying for this will fall on the taxpayer.

Outside the plant, in the towns and villages that evacuated in March 2011, life has frozen in time. Police barricades prevent all but authorized people from entering the 20-km contaminated zone. The sea is still too contaminated to fish so hundreds of local fishermen are idle. Parents around Fukushima Prefecture, home to about two million people, face years of worry about the impact of the Daiichi plant's payload on their children. In this Greenpeace-produced video, the victims of Fukushima express anger and bewilderment at their predicament, and at what the future holds.

Dr David McNeill is the Japan correspondent for The Chronicle of Higher Education and writes for The Independent and Irish Times newspapers. He covered the nuclear disaster for all three publications, has been to Fukushima ten times since 11 March 2011, and has written the book ***Strong in the Rain*** *(with Lucy Birmingham) about the disasters. He is an Asia-Pacific Journal coordinator.*

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