

# Japan Nuke Plant Struggles to Keep Staff

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TOKYO (AP) — Keeping the meltdown-stricken Fukushima nuclear plant in northeastern Japan in stable condition requires a cast of thousands. Increasingly the plant's operator is struggling to find enough workers, a trend that many expect to worsen and hamper progress in the decades-long effort to safely decommission it.



In this Saturday, Nov. 12, 2011 file photo, The crippled Fukushima Dai-ichi nuclear power station is seen through a bus window in Okuma, Japan. Tokyo Electric Power Co., the utility that runs the Fukushima Dai-ichi plant that melted down in March 2011 after being hit by a tsunami, is finding that it can barely meet the headcount of workers required to keep the three broken reactors cool while fighting power outages and leaks of tons of radiated water, said current and former nuclear plant workers and others familiar with the situation at Fukushima. (AP Photo/David Guttenfelder, Pool)

Tokyo Electric Power Co., the utility that runs the Fukushima Dai-ichi plant that melted down in March 2011 after being hit by a tsunami, is finding that it can barely meet the headcount of workers required to keep the three broken reactors cool while fighting power outages and leaks of tons of radiated water, said current and former nuclear plant workers and others familiar with the situation at Fukushima.

Construction jobs are already plentiful in the area due to rebuilding of tsunami ravaged towns and cities. Other public works spending planned by the government, under the "Abenomics" stimulus programs of Prime Minister Shinzo Abe, is likely to make well-paying construction jobs more abundant. And less risky, better paid decontamination projects in the region irradiated by the Fukushima meltdown are another draw.

Some Fukushima veterans are quitting as their cumulative radiation exposure approaches levels risky to health, said two long-time Fukushima nuclear workers who spoke to The Associated Press. They requested anonymity because their speaking to the media is a breach of their employers' policy and they say being publicly identified will get them fired.

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TEPCO spokesman Ryo Shimizu denied any shortage of workers, and said the decommissioning is progressing fine.

"We have been able to acquire workers, and there is no shortage. We plan to add workers as needed," he said.

The discrepancy may stem from the system of contracting prevalent in Japan's nuclear industry. Plant operators farm out the running of their facilities to contractors, who in turn find the workers, and also rely on lower-level contractors to do some of their work, resulting in as many as five layers of contractors. Utilities such as TEPCO know the final headcount — 3,000 people now at Fukushima Dai-ichi — but not the difficulties in meeting it.

TEPCO does not release a pay scale at Fukushima Dai-ichi or give numbers of workers forced to leave because of radiation exposure. It does not keep close tabs on contracting arrangements for its workers. A December 2012 survey of workers that the company released found 48 percent were from companies not signed as contractors with the utility and the workers were falsely registered under companies that weren't employing them. It is not clear if any laws were broken, but the government and TEPCO issued warnings to contractors to correct the situation.

Hiroyuki Watanabe, a city assemblyman for Iwaki in Fukushima, who talks often to Fukushima Dai-ichi workers, believes the labor shortage is only likely to worsen.

"They are scrounging around, barely able to clear the numbers," he said. "Why would anyone want to work at a nuclear plant, of all places, when other work is available?"

According to Watanabe, a nuclear worker generally earns about 10,000 yen (\$100) a day. In contrast, decontamination work outside the plant, generally involving less exposure to radiation, is paid for by the environment ministry, and with bonuses for working a job officially categorized as dangerous, totals about 16,000 yen (\$160) a day, he said.

Experts, including even the most optimistic government officials, say decommissioning Fukushima Dai-ichi will take nearly a half-century. TEPCO acknowledges that the exact path to decommissioning remains unclear because an assessment of the state of the melted reactor cores has not yet been carried out.

Since being brought under control following the disaster, the plant has suffered one setback after another. A dead rat caused a power blackout, including temporarily shutting down reactor-cooling systems, and leaks required tons of water to be piped into hundreds of tanks and underground storage areas. The process of permanently shutting down the plant hasn't gotten started yet and the work up to now has been one makeshift measure after another to keep the reactors from deteriorating.

Thousands of spent nuclear fuel rods that are outside the reactors also have to be removed and safely stored. Taking them out is complex because the explosions at

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the plant have destroyed parts of the structure used to move the rods under normal conditions. The process of taking out the rods, one by one, hasn't even begun yet. The spent rods have been used as fuel for the reactors but remain highly radioactive.

One Fukushima Dai-ichi worker, who has gained a big following on Twitter because of his updates about the state of the plant since the meltdowns, said veteran workers are quitting or forced to cut back on working in highly radiated areas of the plant as their cumulative exposure rises.

"I feel a sense of responsibility to stick with this job," he told AP. "But so many people have quit. Their families wanted them to quit. Or they were worried about their children. Or their parents told him to go find another job."

Known as "Happy-san" to his 71,500 Twitter followers, he has worked in the nuclear industry for 20 years, about half of that at Fukushima. He has worked at bigger contractors before, but is now at a mid-level contractor with about 20 employees, and has an executive level position.

"If things continue the way they are going, I fear decommissioning in 40 years is impossible. If nuclear plants are built abroad, then Japanese engineers and workers will go abroad. If plants in Japan are restarted, engineers and workers will go to those plants," he said in a tweet. Most of Japan's nuclear plants were shut for inspections after the Fukushima disaster.

His cumulative radiation exposure is at more than 300 millisieverts. Medical experts say a rise in cancer and other illnesses is statistically detected at exposure of more than 100 millisieverts, but health damage varies by individuals. He was exposed to 60 millisieverts of radiation the first year after the disaster and gets a health checkup every six months.

Nuclear workers generally are limited to 100 millisieverts exposure over five years, and 50 millisieverts a year, except for the first year after the disaster when the threshold was raised to an emergency 100 millisieverts.

The workers handle the day-to-day work of lugging around hoses, checking valves and temperatures, fixing leaks, moving away debris and working on the construction for the equipment to remove the spent fuel rods.

Other jobs are already so plentiful that securing enough workers for even the more lucrative work decontaminating the towns around the plant is impossible, according to Fukushima Labor Bureau data.

During the first quarter of this year, only 321 jobs got filled from 2,124 openings in decontamination, which involves scraping soil, gathering foliage and scrubbing walls to bring down radiation levels.

"There are lots of jobs because of the reconstruction here," said bureau official Kosei Kanno.

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A former Fukushima Dai-ichi worker, who switched to a decontamination job in December, said he became fed up with the pay, treatment and radiation risks at the plant. He has 10 years of experience as a nuclear worker, and grew up in Fukushima.

He warned it would be harder to find experienced people like him, raising the risk of accidents caused by human error.

He accused TEPCO of being more preoccupied with cost cuts than with worker safety or fair treatment. The utility went bankrupt after the disaster and was nationalized by a government bailout. Even if TEPCO somehow obtains workers in quantity in coming months, their quality would deteriorate, he said.

"We're headed toward a real crisis," said Ryuichi Kino, a free-lance writer and photographer who has authored books about the nuclear disaster and has reported on TEPCO intensively since March 2011.

Under the worst scenario, experienced workers capable of supervising the work will be gone as they reach their radiation-exposure limits, said Kino.

He believes an independent company separate from TEPCO needs to be set up to deal with the decommissioning, to make sure safety is not being compromised and taxpayer money is spent wisely.

Watanabe, the assemblyman, said the bigger nuclear contractors may go out of business because they are being under-bid by lower-tier companies with less experienced, cheaper workers. That is likely to worsen the worker shortages at the skilled level, he said.

Happy-san has the same fear. Some of the recent workers, rounded up by the lesser contractors, appear uneducated and can't read well, he said.

Although life at the plant has calmed compared to right after the disaster, Happy-san still remembers the huge blast that went off when one of the reactors exploded, and rubble was showering from the sky for what felt like an eternity.

"We had opened the Pandora's box. After all the evil comes out, then hope might be sitting there, at the bottom of the box, and someday we can be happy, even though that may not come during my lifetime," he said.

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