



## Dying for TEPCO? Fukushima's Nuclear Contract Workers

Paul Jobin

While the Tokyo Electric Power Company (TEPCO) experiences difficulties in recruiting workers willing to go to Fukushima to clean up the damaged reactors, the WHO is planning to conduct an epidemiological survey on the catastrophe. This is the first of two reports by Paul Jobin offering a worker-centered analysis of the Fukushima nuclear disaster.

### Liquidators recruited by ads

In the titanic struggle to bring to closure the dangerous situation at Fukushima Nuclear Plant No1, there are many signs that TEPCO is facing great difficulties in finding workers. At present, there are nearly 700 people at the site. As in ordinary times, workers rotate so as to limit the cumulative dose of radiation inherent in maintenance and cleanup work at the nuclear site. But this time, the risks are greater, and the method of recruitment unusual.

Job offers come not from TEPCO but from Mizukami Kogyo, a company whose business is construction and cleaning maintenance. The description indicates only that the work is at a nuclear plant in Fukushima Prefecture. The job is specified as 3 hours per day at an hourly wage of 10,000 yen. There is no information about danger, only the suggestion to ask the employer for further details on food, lodging, transportation and insurance.

### The life of contract workers at nuclear plants

Those who answer these offers may have little awareness of the dangers and they are likely to have few other job opportunities. \$122 an hour is hardly a king's ransom given the risk of cancer from high radiation levels. But TEPCO and NISA keep diffusing their usual propaganda to minimize the radiation risks.



Contract workers doing repairs

Rumor has it that many of the cleanup workers are burakumin. This cannot be verified, but it would be congruent with the logic of the nuclear industry and the difficult job situation of day laborers. Because of ostracism, some burakumin are also involved with yakuza. Therefore, it would not be surprising that yakuza-burakumin recruit other burakumin to go to Fukushima. Yakuza are active in recruiting day laborers of the *yoseba*: Sanya in Tokyo, Kotobukicho in Yokohama, and Kamagasaki in Osaka. People who live in precarious conditions are then exposed to high levels of radiation, doing the most dirty and dangerous jobs in the nuclear plants, then are sent back to the *yoseba*. Those who fall ill will not even appear in the statistics.<sup>1</sup>

### Fukushima workers before the catastrophe

According to data published by the Nuclear and Industrial Safety Industry (NISA), in 2009, there were 1108 regular employees (*seisha'in* 正社員) at Fukushima NP1. These were TEPCO employees, but may also include some employees from General Electric or Toshiba, Hitachi and Mitsubishi. But the vast majority of those working at Fukushima 1 were 9195 contract laborers (*hiseisha'in* 非正社員). These contract employees or temporary workers were provided by subcontracting companies: they range from rank and file workers who carry out the dirtiest and

most dangerous tasks—the nuclear gypsies described in Horie Kunio's 1979 book and Higuchi Kenji's photographic reports—to highly qualified technicians who supervise maintenance operations. So even within this category, there is much discrepancy in working conditions, wages and welfare depending on position in the hierarchy of subcontracted tasks. What is clear is that the contract laborers are routinely exposed to the highest level of radiation: in 2009 according to NISA, of those who received a dose between 5 and 10 millisieverts (mSv), there were 671 contract laborers against 36 regular employees. Those who received between 10 and 15 mSv were comprised of 220 contract laborers and 2 regular workers, while 35 contract workers and no regular workers were exposed to a dose between 15 and 20 mSv.

Since contract laborers move from one nuclear plant to another, depending on the maintenance schedule of the various reactors, they lack access to their individual cumulative dose for one year or for many years. NISA compiles only the cumulative dose for each nuclear plant. The result is that the whole system is opaque, thus complicating the procedure for workers who need to apply for occupational hazards compensation.

### ... And after

On March 14th, the Ministry of Health and Labor raised the maximum dose for workers to 250 mSv a year, where previously it was set at 100 mSv over 5 years (either 20 mSv a year for five years or 50 mSv for 2 years, which is in itself a strange interpretation of the recommendations of the International Commission on Radiological Protection's guideline stipulating a maximum of 20 mSv a year. The letter that the Ministry sent the next day to the chiefs of Labor Bureaus (都道府県労働局) to inform them of the decision justifies it on the grounds of the state of emergency (やむを得ない緊急の場合), ignoring the safety of the workers.<sup>2</sup> This could be a measure to avoid or limit the number of workers who would apply for compensation. Stated differently, it has the effect of legalizing illness and deaths from nuclear radiation, or at least the state's responsibility for them. Usually, in case of leukemia, a one year exposure to 5 mSv is sufficient to obtain occupational hazards compensation. The list of potential applicants could be very long in light of the number of workers already on the job, or who are likely to be recruited to dismantle the reactors. The project proposed by Toshiba to close down and safeguard the reactors would take at least 10 years.<sup>3</sup> In short, the state's concern appears to be less the health of employees and more the cost of caring for nuclear victims. The same logic prevailed when, on April 23, the government urged children back to the schools of Fukushima prefecture, stating that the risk of 20 mSv or more per year was acceptable, despite the high vulnerability of children. Can the state be prioritizing the limitation of the burden of compensation for TEPCO and protection of the nuclear industry at large over the health of workers and children?<sup>4</sup>

### Why subcontracting?

As early as the mid-1970s, the use of subcontracting labor in the nuclear industry was well established in Japan. In France, this trend would develop after 1988, reaching a rate of 80% by 1992. According to NISA's data, in 2009, Japan's nuclear industry recruited more than 80,000 contract workers against 10,000 regular employees. The initial goal was not necessarily to hide the collective dose, but to limit labor costs. But the fact is that whether in France or Japan, the nuclear industry nurtures a heavy culture of secrecy concerning the number of irradiated workers. As far as we can know, based on the figures published by the Ministry of Health and Labor, before Fukushima's catastrophe, only 9 former workers received compensation for an occupational cancer

linked to their intervention in nuclear plants.<sup>5</sup> This number is probably very far from the reality of the victims, given the number of workers exposed, and the numerous opacities of that system beginning with the fact that TEPCO and other electric power companies have always refused to disclose the list of their subcontractors.



**Radiation protective uniforms but not boots. Two TEPCO workers were hospitalized after stepping in radioactive water.**

Academy of Sciences (based on more than 5,000 articles translated from Bielorrussian, Ukrainian and Russian) evaluated the total number of victims 985,000.<sup>7</sup> Of the 830,000 liquidators mobilized at Chernobyl, the NYAS report estimated that at least 112,000 had already died, compared to some 50 in the UN report. While the conclusions of the two reports remain contested, even Nakajima Hiroshi, the former WHO director, has acknowledged that the control of WHO by IAEA on nuclear issues was problematic. Therefore we can anticipate that the survey WHO is planning to conduct on Fukushima may provide the same anodyne conclusions.

Paul Jobin, Taipei, April 27

This article draws on previous interviews with Philippe Pons, Tokyo correspondent for *Le Monde*, and Pierre-André Sieber for *La liberté* (Switzerland). Original articles: [1](#), [2](#).

## "To Work at Fukushima, You Have to Be Ready to Die"

Anne Roy interviews Paul Jobin

*Interview: Specialist on Japan, the sociologist Paul Jobin has studied workplace conditions for workers in the nuclear industry. He offers us his analysis at a moment when those workers are attempting to get a hold on the situation at the Japanese power plant heavily damaged by the earthquake.*

We read that they are sleeping on the hard soil, that they have only two meals per day, and are rationed in drinking water. The Tokyo Electric Power Company (TEPCO) and its subcontractors allow little information to filter out concerning workers fighting on the front lines at the Fukushima power plant, a plant devastated by the earthquake and tsunami of 11 March. Paul Jobin knows these places well. In 2002, while doing research on sub-contractors in the nuclear industry, he interviewed managers and temporary workers in that plant. He analyzes the current situation in the light of this experience.

### The Interview

#### What is known about the workers who currently work at the plant in Fukushima?

*Paul Jobin:* It's a paradoxical situation. There has never been so much said about nuclear issues in Japan, but information remains scarce about those who are at the heart of the volcano, in central Fukushima. Up until ten days ago, we saw no people except the helicopter pilots who dropped the seawater, and now the soldiers of the national defense forces and firefighters, using firemen's lamps. We had to wait until Friday March 25 to see the first photos of workers in full protective suits, these being worn inside the plant, where you could see the general state of disrepair, even in computer and control rooms, barely lit ... That day, three sub-contractors were taken to the hospital because they were seriously irradiated. That was the first time we heard officially about subcontractors. But when you know how a plant like that functions under normal circumstances, one can only assume that they comprised 90% of workers on site. They are the ones who do the maintenance work, and who receive the collective dose of radiation - these are the official figures.

But then there are different types of sub-contractors: at the very bottom of the pyramid there are, for example, temporary workers who use mops to clean the reactors, or who deal with used protective clothing. They receive the strongest doses. Then come the technicians (plumbers, electricians) who inspect facilities, piping and pumps, and at the very top, there are the technicians, managers and engineers of TEPCO, who enjoy higher wages and better protection. A number of temporary workers must be on-site, but for now, we do not really know who does what. What is certain is that all those who have worked so far have had to take large doses of radioactivity.

#### Today, how many employees are there on the site?

*Paul Jobin:* Ten days ago, there were four teams of fifty, or two hundred workers. According to the most recent information, there would be six hundred. This figure might include fire fighters and soldiers, but this remains unclear. In a week, how many will there be? TEPCO had to mobilize its network of subcontractors for emergency recruiting in the region or even beyond.

According to the ads that circulate on SMS, and which are relayed on Twitter, wages offered are around 10,000 yen per day (84 euros), which is about double the average salary for a young temporary employee, but does not represent an exceptional offer either. This would mean that, despite the sacrifice of those who agree to go there, TEPCO continues to skimp on wages. Last week, the Tokyo Shimbun published testimonies of people who refused to come to work at the plant.

A man of twenty-seven had received an SMS offering a good salary, but since he has a little boy of three and a wife of twenty-six, he did not want to leave them, imagining that he would face a high risk of premature death. Also a man 48 years of age testified. He lived 40 kilometers from the plant, and had been called by someone saying: "We are looking for people over fifty who could intervene in the reactor; the pay is much higher than usual."

You won't come? The wording "over fifty" suggests that in order to come work on the site, you must be ready to die ... Elsewhere, I read that there are locals who are willing to do the maximum because they do not want to see everything lost for thirty years, or for a thousand years, to come. Finally, Saturday, April 2, the Mainichi newspaper published an interview with an employee of TEPCO who describes the extreme difficulty of the conditions for intervention and the patched-together systems they are compelled to use to protect themselves, like wrapping themselves in plastic bags, for lack of appropriate protective suits.

#### What is the objective of epidemiological surveys?

An epidemiological survey published in March, 2010, was based on a huge cohort of 212,000 persons recorded between 1990 and 1999, out of the total of 277,000 who had worked in nuclear plants. The survey found a significant mortality ratio for only one type of leukemia and judged that other forms of cancer among this population could not be attributed to their exposure to radiation at nuclear plants. One problem is that the survey only calculates mortality ratios, ignoring people who might have cancer but are still alive at the time of the survey. Such obvious methodological bias is frequent in this sort of surveys. In France and other countries, another bias is the tendency to ignore contract workers, though they receive the highest cumulative radioactive doses. Therefore, it is difficult to resist the conclusion that the very goal of these epidemiological surveys is to minimize the risks of nuclear radiation and encourage the nuclear industry's business as usual.

The same logic has prevailed at WHO and IAEA in their evaluation of Chernobyl's legacy. Compared to a mere 4000 in the "definitive" United Nations report published in 2005,<sup>6</sup> the report published in November 2009 by the New York

Only the bosses are furnished with dosimeters. According to another worker present on that day, Friday the 11th, many simply went home carrying their dosimeter. TEPCO confirms that, due to the tsunami, a large number of dosimeters were damaged. Out of 5000, there remain no more than 320. The manufacturer has virtually no more stock, and Toshiba has sent them only 50.

### TEPCO's consolidated after-tax profits



**They speak about a worker who was irradiated when he was working on the site while wearing small rubber boots. How do the employees protect themselves on the site?**

*Paul Jobin:* This is true. It sounds totally inadequate, but how to do otherwise? Even in normal times, in this part of the reactor, you have to move very quickly to receive the smallest dose possible. That you can't do with lead soles. There exist coveralls with full masks, but these devices seem poorly designed and primitive compared to the challenge of the task.

So, in the absence of effective protection, one uses what is called "radiation protection". In Japanese, one speaks of "management of radioactivity". That's exactly what it is: Manage the imposed collective dose administered to workers. The issue of radiation protection enters in direct conflict with that of plant safety, because the more a plant ages, the more it "showers," as the Japanese workers say, the more it must be cleaned, and the more you must ask personnel to carry out repairs and maintenance. Hence the extensive use of subcontractors. What makes the situation in Japan unique is that nuclear power was developed in the 1970s, and the use of subcontracting during periodic shut-downs has been systemic ever since. This organization of work has dramatic consequences for the health of workers and plant safety; hence the repetition of

anomalies and other incidents, even before considering the issue of seismic risk.

**Why has the Japanese minister of health decided to raise the legal dose to be received by workers?**

*Paul Jobin:* Since 2002, the International Commission on Radiological Protection (ICRP) recommends that an annual dose for nuclear workers not exceed 20 millisieverts (mSv) per year. But even in normal times, workers receive large doses, with consequences that are systematically denied or minimized.

In Japan, legislation has endorsed the standard of 20 mSv per year for workers, stipulating that the dose can be calculated as an average over a five year period, with a maximum at a given time of 100 mSv during any two years. But as of March 19, TEPCO asked to boost the maximum dose to 150 mSv, and the Ministry of Health went further, raising it to 250 mSv — this perhaps to limit the number of possible applications for recognition of occupational disease.

On Thursday, March 31, the Nuclear Safety Agency (Nisa) announced that 21 workers had received doses above 100 mSv, but that none had exceeded 250, as if this meant they could escape without too much damage, when even the International Atomic Energy Agency believes that the situation remains "very serious" in Fukushima. And in fact, dose rates are now such (up to 1000 mSv per hour on Saturday, April 2) that intervention near the reactor seems impossible.

**Have there been victims recognized as having contracted occupational diseases due to their work at the plant?**

*Paul Jobin:* In 2002, I counted 8 cases recognized since 1991. Since then, there were few others, as far as is known, because there is a certain opacity in the system. I think for example of the case of Mr. Nagao. He had worked in Fukushima 1 and 2 between 1977 and 1982 and received a cumulative dose of 70 mSv. Starting in 1986, he began experiencing all sorts of symptoms, lost his teeth, and in 1998, doctors diagnosed multiple myeloma. In 2002, he filed an application for recognition as having an occupational disease, which he obtained, not without difficulty, with the support of an associative network. Then he filed a lawsuit against TEPCO. His complaint was dismissed in 2009 in an all-too expeditious manner: the judge did not even bother to examine the medical opinions presented by the prosecution.



**Protestors demonstrated against nuclear power in Tokyo on Sunday, as officials admitted the crisis at the Fukushima Daiichi nuclear plant could take 'months or years' to be resolved. AP**

**You have conducted a study on the effects of mercury pollution in the sea off the coastal town of Minamata by the Chisso Petrochemical Plant. How were the victims treated in this disaster?**

*Paul Jobin:* There is an important difference between these two disasters. In Minamata, there was no explosion, residents were not immediately aware of the danger, and fear came later. Yet by the 1920s, there was already an impact on fisheries, and fish numbers decreased (not because of mercury but because of emissions of other pollutants). From the 1940s, they saw dead cats and birds, then the first human victims in the mid-1950s. The creation of awareness of the threat took a long time. The first trial took place between 1969 and 1973 and concluded with a judgment against Chisso for a substantial sum of compensation for the plaintiffs.

Then there were many other trials, and it has been estimated that there was a total of at least 40,000 victims. Finally, in July 2009, a compensation law was passed, which was quite well received by many victims. From the first steps taken by the victims from Chisso in 1956 to 2010, it will have taken over fifty years of battle with the company and the state to see fairly complete compensation. This bodes ill for the current disaster, especially since the history

of reparations for victims of Minamata disease occurred at a relatively prosperous time for Japan. Who knows now what will happen to Japan after a disaster like this? It was the third largest economy in the world, but will it remain so?

As stated by the Prime Minister, Kan Naoto, this is truly a national disaster on a scale that Japan has not faced since the end of the Second World War. This is a catastrophe for the whole country. This will make it even harder for people to get redress.

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*Original French article at L'Humanité: "Pour travailler à Fukushima, il faut être prêt à mourir." Interview by Anne Roy. Translated Thursday 7 April 2011, by Henry Crapo and reviewed by Bill Scoble*

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## Notes

<sup>1</sup> In the 1980-90s, Fujita Yuko 藤田祐幸, then professor of physics at Keio University, distributed leaflets warning day laborers not to accept these dangerous jobs. See Higuchi Kenji 樋口健二's [documentary](#) in Kamagasaki.

<sup>2</sup> [Link](#).

<sup>3</sup> On the decommissioning of nuclear plants, see NHK's recent [documentary](#).

<sup>4</sup> See the reaction of the Chairman of the Japan Federation of Bar Associations to this decision, and the protest petition [online](#).

<sup>5</sup> For more details, see the reports of the Citizen Nuclear Information Center's [homepage](#), mainly written by Watanabe Mikiko, who has provided constant follow up and support for these workers (use the following keywords: workers, worker exposure, Nagao Mitsuki, Kiyuna Tadashi, Umeda Ryusuke, Shimahashi Nobuyuki; 原発労働者, 被曝労働, 長尾光明, 喜友名正, 梅田 隆亮, 嶋橋伸之).

<sup>6</sup> [Link](#).

<sup>7</sup> For a presentation of this survey, see [this link](#). Alexey V. Yablokov (Center for Russian Environmental Policy, Moscow, Russia), Vassily B. Nesterenko, and Alexey V. Nesterenko (Institute of Radiation Safety, Minsk, Belarus). Consulting Editor Janette D. Sherman-Nevinger, Chernobyl: Consequences of the Catastrophe for People and the Environment (New York: New York Academy of Sciences, 2009).

<sup>8</sup> See the following reports (French only) on the protests in Switzerland about the control of WHO by AIEA on nuclear issues: [1](#), [2](#).