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Citizens' Nuclear Information Center

Akebonobashi Co-op 2F-B, 8-5 Sumiyoshi-cho, Shinjuku-ku,
Tokyo 162-0065, JAPAN Phone: +81 3 3357 3800 Fax: +81 3 3357 3801
URL: http://cnic.jp/english/ e-mail : cnic@nifty.com

Create a Nuclear-free World with Us
— Report of the 40th anniversary gathering of Citizens' Nuclear Information Center

In September 2015, Citizens' Nuclear Information Center marked its 40th anniversary. To commemorate the anniversary, we held a gathering on October 12, attended by 110 people. We invited Dr. Kōhei Hanazaki, philosopher, and Ms. Ruiko Mutō, Fukushima Nuclear Disaster Criminal Complainants Group, to deliver talks. Following their talks, an extremely pleasant party was held.

It was in 1954 that Japan decided to adopt nuclear power as a national policy and started to move toward becoming a nuclear power nation. Shortly thereafter, a small number of researchers and many people residing near planned NPP sites spoke up against the policy, concerned about the safety of the plants. Sixty years has passed since then, and the majority of the population is now against NPPs.

In this article, we would like to briefly introduce how CNIC was established, and summarize the talks of Dr. Hanazaki and Ms. Mutō.

1) National antinuclear rally, Kyoto, 1975

At the end of August 1975, Japan's first national antinuclear rally was held in Kyoto over three days, being attended by 51 groups from NPP sites as well as 600 citizens and researchers, presenting the slogan: "Life-threatening nuclear power." At that time, 59 nuclear reactors were already in service, being built, or planned, along the coastline of the Japanese archipelago. The slogan of the rally, "life-threatening nuclear power," was taking shape without doubt.

In March 1975, a book named *The Safety of Nuclear Power Generation* was published (from Iwanami Shoten, Tokyo; in Japanese). It was perhaps the first book in this country that criticized nuclear power generation. An easier-to-read version of this book was issued under the name of *Nuclear Power Generation* (an Iwanami Shoten softcover; in Japanese) in February, 1976. These works were the achievements of research by the Nuclear Safety Issue Research Group, which had been active since 1972. Among the important members of the group were four physicists: Mitsuo Taketani (elementary particle theory), Shū Ono (solid-state theory), Tokunosuke Nakajima (nuclear engineering), and Yōichi Fujimoto (nuclear physics). It was in the early 1970s that concerned scientists started to criticize nuclear power plants.

We would like to trace back about 20 years, to March 2, 1954, the very next day after a U.S. hydrogen bomb test was performed near the Bikini Atoll. A number of tuna longline fishing boats had been exposed to radiation in the Pacific Ocean, including the heavily contaminated Daigo Fukuryū Maru (S.S. Lucky Dragon 5), but on March 2 a budget proposal of 250 million yen for nuclear power was suddenly submitted to the Japanese Diet, which approved the proposal. This gigantic budget became the trigger for post-war Japan to steer itself toward becoming a science- and technology-based nation.

Contents

In those days, many Japanese scientists, who had not forgotten the Hiroshima and Nagasaki atomic bombings, were against nuclear power research, because it might lead to the development of nuclear arms and, consequently, war. On the other hand, a good number of scientists were positive about research, both out of curiosity and the promise of research subsidies. The two groups of scientists held prudent discussions. Having become impatient, the pro-nuclear Diet member Yasuhiro Nakasone (who then belonged to the *Kaishinto* Reformist Party and later became a Liberal Democratic Party member and Prime Minister) reportedly remarked: "Because academics were wasting time, we slapped their cheeks with a bundle of notes."

In the end, the Atomic Energy Basic Law was established in December 1955, incorporating compliance with the three nuclear power principles demanded by the Science Council of Japan, which were "openness," "democracy," and "autonomy." The nuclear power promotion framework, led by politicians and supported by pro-nuclear academics, was thus established.

Returning to the 1970s, in September 1975, encouraged by the anti-nuclear rally in Kyoto, the Citizens' Nuclear Information Center (CNIC) was established, led by Mitsuo Taketani as Director. At first, the organization was regarded as a place to exchange information about nuclear power generation among academics and researchers concerned with the safety of nuclear power plants. However, Jinzaburō Takagi (nuclear chemistry), who was the only full-time staff of the organization, had a different opinion: "Researchers should also be activists." This controversy is commonly known in the as "watch-versus-hammer debate." The metaphor is that scientists are like precision watches while activists are like hammers who stand up against reality. Being defiant of the old, conservative idea that experts should live in the worlds in which they specialize, Takagi was in pursuit of a new role for scientists; he believed that scientists should pursue both research and social activism.

After Taketani's resignation, Takagi became the second Director of the CNIC. Since then, the organization has been pursuing the difficult path of conducting both research and activism, according to Takagi's policy. Behind his idea lay the fact that he was deeply involved in the movement against the construction of the Sanrizuka Airport (today's Narita International Airport), which was the most intensely fought controversy in Japan at the time. We should note that Takagi sincerely empathized with the farmers who, with bare hands, resisted the national authorities, which enforced the airport construction with bulldozers.

2) Kōhei Hanazaki — "Three main pillars of grass-roots philosophy in Japan"

Dr. Hanazaki, born in 1931, is a philosopher who became well known when he published *Marukusu ni Okeru Kagaku to Tetsugaku* ("Science and Philosophy in Karl Marx's Thought," in Japanese, published by Morita Shoten, Tokyo, 1969). As an associate professor at Hokkaido University, he became involved in the All-Campus Joint Struggle League students' movement and in the actions resisting the Vietnam War. In November 1971 he resigned from the university after these experiences. Being outside the academic world, he has lived as an activist philosopher ever since, pursuing the very fundamentals of thought. He has been involved in various regional people's movements, such as the Sanrizuka movement, resistance against the Date Thermal Power Plant and Tomari Nuclear Power Plant, and the rights recovery movement for the indigenous Ainu people. Dr. Hanazaki has also closely studied the pollution problems of the Ashio Copper Mine in Tochigi Prefecture, and the Minamata mercury poisoning in Kumamoto Prefecture. He has pursued his thinking about how people should live while continuously expressing his thoughts. He has authored many books, including *Ikiruba no Tetsugaku — Kyōkan kara no Shuppatsu* ("Philosophy in the Place of Living — Let Us Start from Empathy," Iwanami Shoten, Tokyo, 1981) and the record of a talk with Jinzaburō Takagi, *Akirame kara Kibō he — Ikiruba kara no Undō* ("From Resignation to Hope — Movement from the Place of Living," Nanatsumori Shokan, Tokyo, 1987).

At the gathering commemorating CNIC's 40th anniversary, Dr. Hanazaki started his talk with a German newspaper article concerning nuclear power generation that he had read in Germany in April 2011, soon after the March 11 earthquake and Fukushima nuclear accident. He mentioned that, in the article, Cardinal Reinhard Marx, archbishop of Munich and Freising, and Jürgen Trittin, German Green Party, both urged that nuclear power plants be promptly discontinued, and vouched for the feasibility of the discontinuation. Dr. Hanazaki then explained the background to the subsequent statement and proposal of the German Ethics Commission on Safe Energy Supply, and introduced his long-worked ideas on Japanese grass-roots thought, compared with thought and culture in Germany and other areas of Europe.

Cardinal Marx stated that technology that is not beneficial to all generations, including nuclear energy, is an issue of *Maß*, or an issue of limits within which we should live, whatever lifestyle we wish to enjoy. According to him, the limit is a basic idea every person can have, even if not a Christian.

Dr. Hanazaki

Ms. Mutō

Dr. Hanazaki explained that, the word *Maß*, which can also be translated as temperance, originated from ancient Greek philosophy, and that the word refers to an ethical attitude of following the limits within which each person should live. Namely, we should preferably lead a lifestyle that complies with the needs related to climate change and resource limitations; we must satisfy our own needs with less energy.

Furthermore, Dr. Hanazaki made the point that all the decisions concerning nuclear energy should be based on values determined by society, which take priority over technical or economic values. "Society's value determination is the most important, and being compliant with this is our responsibility in terms of ecology," he stressed.

In further pursuit of this issue, Dr. Hanazaki said that people living on the Japanese archipelago should follow the fundamental culture that has been inherited up to the present time from the ancient era of *Jōmon*, during which all natural creations were considered to have spirituality, and should uphold the philosophy of peace and human rights that people became conscious of after the Second World War and position it as an important pillar of ethics.

In view of these thoughts, Dr. Hanazaki stated that the characteristics of the grass-roots thought of people in Japan could be summarized into three pillars: The first is to live as ordinary people — people who live being proud of themselves as commoners, without attempting to obtain power, authority, titles, or affluence. He mentioned, as models of people who have embodied this pillar, Shōzō Tanaka, who struggled to resolve the Ashio Copper Mine poisoning incident; Michiko Ishimure, who is living with Minamata victims; and philosopher Katsumi Takizawa, who was involved in the student movement at Kyushu University while holding to a policy of "living in the lowly position of a human being." Regarding the second pillar, Dr. Hanazaki mentioned Seishin Asato of Okinawa, who advocated the "right to live," which placed high ethical and spiritual values on a life closely connected with the basis of life. Dr. Hanazaki mentioned spirituality in nature as the third pillar, pointing out that all the people mentioned here, including indigenous Ainu people, lived and are living while sensing such spirituality. "I myself have had an urge to expose myself to it," Dr. Hanazaki added.

At the end of his talk, Dr. Hanazaki expressed his great appreciation for the tenacious efforts by women in the anti-nuclear movement, and by people in Tsushima, Nagasaki Prefecture, who spent as long as two days deciding what antique documents could be lent out in response to a request. In stating this, he expressed his hope that in order to realize freedom from nuclear power, decisions should desirably be made based on thorough discussion.

3) Ruiko Mutō — "The nuclear accident has not ended"

"Hello, everybody. I am from Fukushima." On the podium at the September 19 Good-bye Nuclear Plant Rally with 50,000 Citizens, held in Tokyo in 2011, Ms. Mutō addressed the audience, who had gathered from all over the country. The address was followed by a portrait of her hometown, contaminated by radioactivity:

Everyone, Fukushima is a very beautiful place.
Hama-dōri borders with the cerulean-blue Pacific Ocean on the east.
Naka-dōri produces many kinds of fruit — peaches, pears, apples.
The Aizu plain extends around Lake Inawashiro and Mount Bandai, and has golden rice so heavy that the stems bend downwards.
Lines of deep mountains form a picture frame for the rice paddies.
Blessed with green mountains and clean water, Fukushima is our home.

Ms. Mutō, a lover of the nature of Fukushima, used to lead an emotionally rich life in an environment full of nature in Miharu Town, Fukushima. This lifestyle was toppled by the Fukushima Daiichi Nuclear Power Plant accident following the earthquake of March 11, 2011. After working as a teacher at schools for disabled children, she opened a woodland cafe, Kirara, in 2003, and was leading a life enjoying the beauty of nature from season to season. She began to participate in the anti-nuclear movement after the Chernobyl accident. Today she works as the head of the Fukushima Nuclear Disaster Criminal Complainants Group, in pursuit of responsibility for the Fukushima accident.

Ms. Mutō also participated in a regional gathering in Kashiwazaki, Niigata on the day before this Tokyo gathering. She explained the current condition of Fukushima, and the updates of her group's activities pursuing responsibility for the accident. Showing many photographs and illustrations, she also introduced the Fukushima people's gathering organized by the Federation of Nuclear Accident Victims' Organizations (abbreviated as *Hidanren*), as well as explaining about the federation's action of submitting demands to the Fukushima prefectural government.

Although four and a half years has passed since the accident, the whereabouts of the nuclear fuel in the reactors is still unknown. The problem of contaminated water emissions is becoming extremely serious; it is still unknown when the frozen-soil barrier will be completed. Radioactive substances are emitted into the sky and sea every day, while 7,000 workers are forced to work in danger, exploited and exposed to radiation each day. The flexible container bags that contain radioactive wastes resulting from decontamination work have deteriorated, and a recent flood washed some of the wastes away.[1)] The air dose rates are high around these temporary waste storage sites.

The national government and Fukushima prefectural government canceled the designation of evacuation zones despite the air dose rates still not being at an appropriately low level, and decided to discontinue the governmental housing rental program for evacuees and compensation payments to the victims without first consulting the victims.

The emergence of many cases of childhood thyroid cancer in Fukushima is an alarming sign, but the governments are covering it up, and are attempting to cook up a new nuclear safety myth. In elementary schools in Miharu Town, a government textbook teaches children about "cohabitation" with radioactivity.

In Fukushima, more people have died due to impacts from the accident than due to the tsunami. Between their nostalgia for their hometown and anxiety about radioactivity, people are tired out both emotionally and physically. Around Ms. Mutō, eight people died this year: Five people died very suddenly, two from cancer, and one with malignant lymphoma. The torment Fukushima is experiencing is unimaginable.

On July 31, 2015, a court decision was made that three people, including the former TEPCO chairman and vice president, should be mandatorily indicted, which was a landmark development in the restoration of civil justice.

The Federation of Nuclear Accident Victims' Organizations submitted a request to the governor of Fukushima, demanding withdrawal of the recent government decisions, namely, the discontinuation of the free-of-charge housing rental program, cancellation of the designation of evacuation zones, and discontinuation of compensation payments to victims. The federation organized a rally on October 27.

Recalling her pre-accident life enjoying the benefits of nature, and showing photographs of her beloved dog, Ms. Mutō stated in retrospect: "My understanding is that we need to think with our own head to live."

(Yukio Yamaguchi, Co-director of CNIC)

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1) This is explained in more detail on page 9.

The India-Japan nuclear agreement would be an international disaster. We must stop it.

KUMAR SUNDARAM,
Coalition for Nuclear Disarmament and Peace (CNDP)

It's important to realise that the nuclear deal between India and Japan is much more than a bilateral agreement, and it must be opposed as we approach the 5th year of Fukushima.

The India-Japan nuclear agreement would be an international disaster. It would rehabilitate the global nuclear lobby, which is facing its terminal crisis after Fukushima. They are aiming to use the toothless safety laws and corrupt politicians of India, and the general political apathy for the lives of the poor and the environment in the country.

The agreement essentially does 3 things:

1. It provides a safe home in India for the international nuclear lobbies, where they compensate for their terminal global crisis post-Fukushima and regain the financial health to bounce back globally later. The World Nuclear Industry Status Report 2015 unequivocally highlights the terminal crisis resulting from the escalating costs of nuclear, the adverse popular perception, the more stringent safety norms increasing the costs and incubation periods, and a simultaneous growth in the efficiency and competitiveness of the renewable sector. The 'renaissance' that the nuclear industry has been talking about isn't really happening anywhere else except India, China and a few other smaller Asian countries with limited nuclear plans. India has the largest nuclear expansion plans in the post-Fukushima world and the global nuclear industry is looking at it as an attractive destination with toothless safety norms and the general political apathy towards the lives of poor people.

The Japanese deal is essential for the reactor projects of the US and France to proceed on the ground as some crucial reactor equipment is manufactured only by Japanese companies. Another reason is that the two major US nuclear giants - GE and Westinghouse - have become Japanese owned companies.

In immediate terms, the deal means 6 EPR reactors for Areva and 4 each for GE and Westinghouse. Japan will only supply crucial equipment and there are no turn-key reactor purchase talks so far, so the financial gain for Japan isn't really all that big, but the US and France have been pushing Japan to conclude a deal with India asap, as has been reported in the media.

2. This deal implies a serious threat to the people of India, particularly the most vulnerable sections in the rural areas, whose lives and livelihoods are at stake. India is imposing these reactor projects at gunpoint against the wishes of the local communities, in ecologically fragile, geologically sensitive areas with dense human populations.

The people - tens of thousands of farmers, fisherfolk, women and children in these areas - depend on the local ecology for their food and livelihoods. These will be threatened both in terms of forced mass eviction for these projects with compensations only for the landed few, as well as the loss of traditional vocations for a larger number around the proposed project sites.

Nuclear energy has its own inherent insurmountable problems and the world has realised after Fukushima that nuclear safety is an oxymoron - a dynamic concept which the industry has to keep chasing, and it cannot afford to fail as nuclear accidents inflict irreversible and long-term damage. But the nuclear industry has become much more risky in India owing to the totally non-transparent nuclear sector with scant regard for independent scrutiny. India is perhaps the only country after Fukushima which has proposed a weaker nuclear regulator to replace its already weak and toothless nuclear safety monitoring body. The government is making every effort to do away with already weak legal provisions to hold the nuclear suppliers liable in case of accidents. The larger bureaucratic apathy and corruption, more appalling when it comes to deliver things to the poor, can be relied on for unaccountable operation of reactors and dangerous mismanagement of potential accidents.

3. The nuclear supply from Japan to India creates a bad precedent for nuclear disarmament. It practically rewards a country which conducted nuclear tests, defying sane advice from within and outside, at a time when the world is looking towards measures to make the nuclear commerce regime more stringent as the number of potential proliferators increases.

India conducted nuclear tests in 1998, without any immediate threats or provocations, under the right-wing government of the Bharatiya Janata Party (BJP) to boost its self-image. The pursuit of macho-nationalism is also linked to an increasing Hinduisation of India, leaving the minorities insecure and secular voices stifled. The same BJP is in power again, under a more hard core leader and with a brute majority, and the rising militarism in India could spill over to South Asia. The region has two nuclear-armed nations and any small conflict, often used for domestic political purposes, can escalate into a nuclear exchange.

Apart from the above specific negative implications of the deal, the larger context in which India-Japan relations have taken a decisively militarist turn should also not be missed. The first beneficiary of PM Shinzo Abe's policy of re-starting military exports to foreign countries is going to be India, which will buy the Shin-Meiwa US-2, the amphibious 'rescue' aircraft. The joint exercises in the Indian Ocean by the Indian and US navies have caused anxieties in Pakistan and China and are seen as a part of the larger US design of propping up a Japan-India axis to counter China in the region.

India's nuclear future at the crossroads

The nuclear deal with Japan also comes at a time when the nuclear energy plans of India are at an important juncture. The new Indian PM – Narendra Modi – belongs to the Hindu-majoritarian BJP, which places strong nationalist pride both on nuclear weapons and nuclear energy. During his recent overseas visits in the last eighteen months to the US, France, Australia, Mongolia and Japan, Modi has strongly pursued nuclear commerce agreements. He has abandoned even the minimum reservations that his party used to raise when it was in opposition for ten years before him.
India's newly appointed Chairman of the Atomic Energy Commission (AEC), Shekhar Basu, almost taking a leaf from Modi's zeal for nuclear power, started his sting with a press conference where he announced that the foreign nuclear suppliers should not be made liable for any accident.

The Indian law, the Civil Liability for Nuclear Damage Act, 2010, provides for a 'right of recourse' against the nuclear suppliers in case of an accident to the state-owned operator Nuclear Power Corporation of India (NPCIL) under Clause 17(b).

The clause was introduced under pressure from Parliament and civil society by a reluctant Manmohan Singh government. At that time there was a public outcry on liability, following the June 2010 Bhopal judgment that let the accused go almost scot-free. This led to a sensitive debate.

Photos of anti-nuclear gathering at Koodankulam

Although the Act capped the total liability at a ridiculously low amount and was criticised for its complicated procedural stipulations, it provided for a very limited hook on private suppliers – both foreign and home-grown.

Attempts to dilute and circumvent the liability norm started soon. These included making supplier culpability dependent on an explicit mention of the liability provision in the bilateral contract between the supplier and the operator.

In addition, the Indian government limited the product liability period to just five years under the Nuclear Liability Rules, 2011, designed to guide the implementation of the 2010 Act. Eminent jurist Soli Sorabjee termed the Rules "ultra vires" (beyond the powers) of the Act and going against its spirit.

In his last foreign trip as PM, when Singh went to the United States, he offered "as a gift" a reinterpretation of the liability law. According to that reinterpretation, the operator has the option of not exercising its right of recourse against the supplier. He assured Obama that the public-owned Indian operator will not sue suppliers.

Evidently, even this failed to assuage companies such as GE and Westinghouse. They were uncertain about future Indian governments abiding by such a promise, especially in the wake of public pressure that would follow any big nuclear accident.

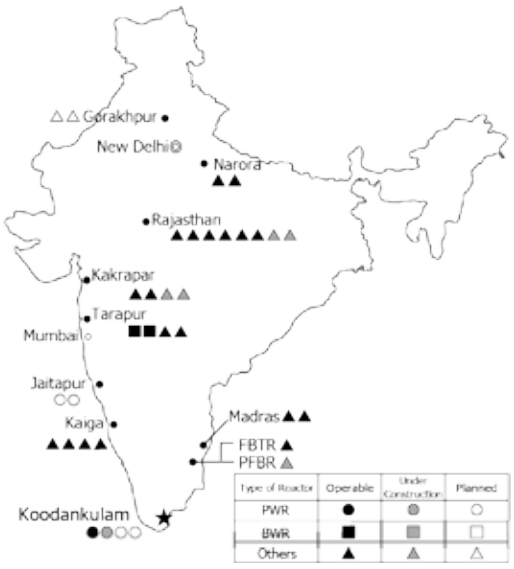
The foreign corporations have also been opposed to the Indian law as it is a departure from the CSC, which they want the world to adopt as an international template. Ironically, India rushed to sign the CSC in October 2010, soon after it enacted the domestic law. It then started citing that as a reason to amend the Parliament-mandated law.

At that time there were fewer CSC signatories. Only in April this year has the Convention entered into force. India had an opportunity, as an attractive investment destination for the nuclear sector, to actually lobby for amendments to the CSC to ensure adequate liability for people in developing countries. Japan's signing of the CSC gave it the required legal status and now it has become a weapon to push other countries to exempt suppliers from liability.

Koodankulam not working

Another announcement that the new AEC Chairman made was about Koodankulam resuming operation "soon". The reactor near the southernmost tip of India, started two years ago with much fanfare and after brutal repression of local people who were opposed to the project.

Ever since its inception, the Koodankulam Atomic Power Project has courted controversy. The nuclear power plant, imported from Russia, has been a bone of contention between the government and the nuclear power lobby on the one hand and anti-nuclear activists, environmentalists and local villagers on the other since mid-2001.



Nuclear Plants in India

Three and a half years ago, the backers of the project had scrambled to prove that nothing was more important and urgent than the N-power project to solve the power crisis in Tamil Nadu and other southern states. Protests were eventually scuttled and Unit 1 of the project was commissioned on 22 October, 2013.

After being commissioned, the plant failed to function at full capacity for many months and was declared commercially operational only on 31 December, 2014. In these 14 months, the reactor shut down 19 times due to tripping, and there were three maintenance outages.

Tripping is common at nuclear reactors undergoing tests. But in Koodankulam, their frequency is very high. At 14 trips during the plant's 4,701 hours of operation until now, the trip rate is 20.8 per year - way ahead of the global average of 0.37, according to a World Nuclear Association report.

The 10 best-performing reactors had a trip rate of a mere 0.25. The same report underlines an average 1.5 days of loss of productivity per trip globally. In Koodankulam, the average is 6.5 days – that’s nearly a week lost.

In its two-year existence, the Koodankulam reactor is yet to achieve the minimum benchmark - operating continuously for 100 days at 100 percent capacity. The plant operated below its capacity for 134 days between 10 December, 2014 and 24 August, 2015, and a total of 124 days at full capacity, but not continuously.

Negotiations for the India-Japan nuclear agreement must be terminated

In India, local communities and activists are protesting against nuclear plants being set up on their land. They have raised a wide array of issues - damage to livelihoods and the environment, inherently unsafe nature of nuclear energy, its adverse economics and undesirability for India's energy future, shoddy safety regulations, and an unaccountable nuclear industry.

Add to this the global shift away from nuclear power post-Fukushima that India stands to miss due to its nuclear obsession.

At a time when the world and citizens of South Asia should actually be asking for more restraint measures and a nuclear-free zone in the region, this deal would legitimize India’s nuclear weapons and bring India and Japan closer in a militarist framework, purportedly to counter China as per the US strategies.

All peace and democracy loving people across the world must demand scrapping of this nuclear agreement between India and Japan. The two Asian countries should instead focus on alternative energy technologies, learning lessons from Fukushima, and focus on reducing and eliminating nuclear weapons in the 70th year of Hiroshima.

Selection of disposal sites for radioactive materials from the Fukushima nuclear plant and designation of some areas as candidate sites should be retracted

Kazuhide Sueda[1]

Radioactive substances dispersed during the 2011 Fukushima nuclear accident caused severe contamination, not only in Fukushima Prefecture but in other parts of the Tohoku and Kanto regions as well. The contamination generated enormous amounts of polluted sludge in the water supply and sewerage systems, as well as highly contaminated refuse incineration ash containing high concentrations of radioactive substances exceeding 8,000 Bq/kg of radioactive cesium in waste disposal facilities.

The Law on Special Measures Concerning Contamination by Radioactive Materials defines wastes that exceed 8,000 Bq/kg of radioactive cesium as "designated waste," and requires the state to dispose of these materials, along with the radioactive waste from the Fukushima evacuation zones.

The law stipulates a basic policy of obliging the prefectures where such wastes have accumulated to dispose of them within their territories. The Ministry of the Environment, therefore, selected candidate sites for the disposal facilities and proposed negotiations with the local governments on this issue. The residents of the selected sites, however, reacted sharply against the proposal, launching protests in some parts of the country.

Although the Ministry of the Environment chose Yaita, Tochigi Prefecture, and Takahagi, Ibaraki Prefecture, as candidate sites in 2012, its high-handed method of selecting the sites, without making any prior approaches to the local administrations, provoked massive opposition among the local governments and residents. Consequently, the ministry was forced to retract its decisions.

At present, the Ministry of the Environment is choosing candidate sites after obtaining endorsement for its selection procedures from the "expert panel on designated waste disposal sites" and proposing the procedures to local mayors. Under the procedure, each candidate site is given marks to ensure objectivity of the selection process. Nevertheless, the conclusion can be changed easily if the ministry makes a policy shift, for example, to give priority to localities with state-owned land. Thus this new selection process does little to reassure local residents.

Miyagi	In January 2014, three towns were selected as candidate sites, Kurihara, Kami and Taiwa. Residents of Kami Town blocked roads in protest against the state's dispatch of officials to the town to conduct on-the-spot investigations in October 2014, August 2015 and October 2015. As a result, the investigation has yet to be conducted in the three towns.
Tochigi	In July 2014, the town of Shioya was selected as a candidate site. The town is known for clear spring water, chosen by the Ministry of the Environment as one of the 100 best-quality spring water sources in Japan. The residents were strongly united against the government's decision. In September 2015, the candidate site was inundated when torrential rains hit the area, and the access road was severely damaged.
Chiba	The premises of Tokyo Electric Power Co.'s Chiba thermal power plant became a candidate site. Many residents opposed this decision, citing the facts that the plant is located in a densely populated area and that it is standing on land liable to liquefaction during an earthquake.
Ibaraki	Local mayors in the prefecture met in January 2015 to confirm their traditional policy of storing contaminated sludge and ashes within their own jurisdictions.
Gunma	Since July 2013, the local mayors' conference to discuss selection of candidate sites has yet to be convened to date. The prefectural government is taking a wait-and-see attitude.

Figure 1. *Current state of disposal site selection process in various prefectures*

Danger of groundwater and other contamination

The Ministry of the Environment no longer uses the term, "nuclear waste disposal sites," and instead, refers to them as "long-term management facilities." This symbolizes its ad hoc, erratic policy concerning radioactive-waste disposal.

The ministry's plan says the radioactive waste will be placed in concrete structures, and in the first monitoring period, cracks will be repaired by using inspection tunnels, which will later be filled in with bentonite.

However, the first monitoring period for the designated radioactive waste disposal sites is only several tens of years, much shorter than the 300 years for the Rokkasho Low-level Radioactive Waste Disposal Center in Aomori Prefecture. In addition, the designated radioactive waste disposal sites will be surrounded by permeable soil, while the concrete structure at the Rokkasho center is surrounded by bentonitic earth or bedrock.

Due to this difference, the ministry says it will construct impermeable walls around a disposal site if contamination of groundwater is confirmed in the observation well. The expert panel has already approved this plan.

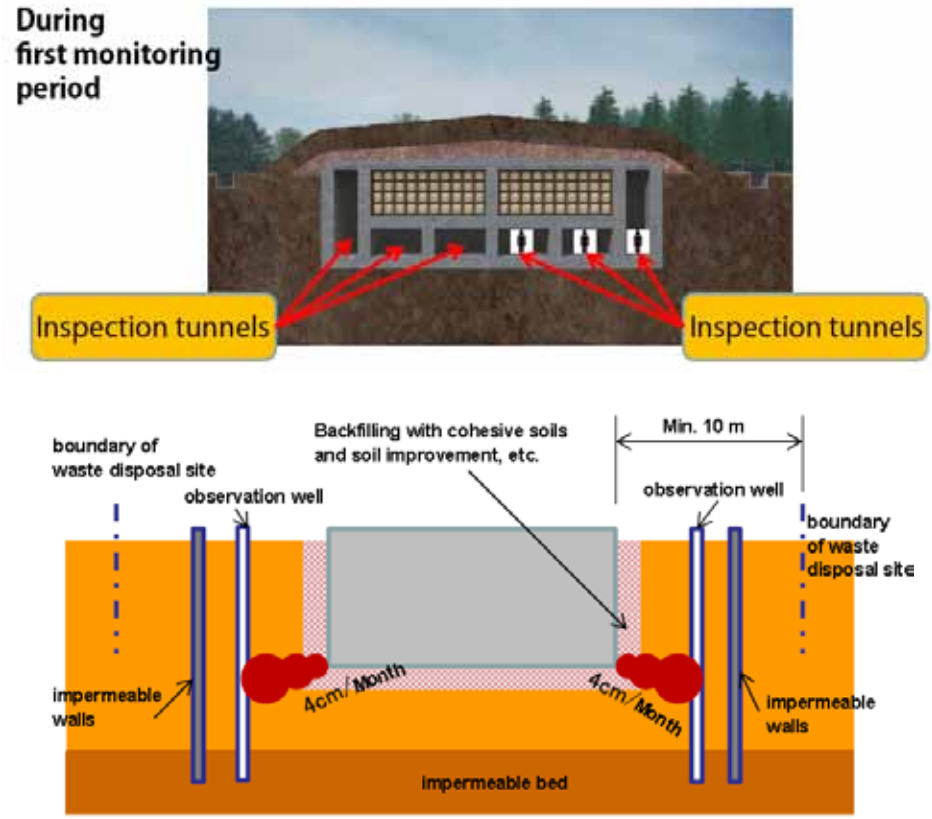


Figure 2. *Measures against groundwater pollution (Reference material for the first meeting of the expert panel)*

These proposed measures, however, do not guarantee the safety of the disposal site. The ministry's plan also calls for construction of an incinerator for inflammable radioactive wastes next to disposal sites, which has increased popular concern over air pollution as well.

The Law on Special Measures Concerning Contamination by Radioactive Materials is flawed

To establish a radioactive waste disposal site, like the Rokkasho Low-Level Radioactive Waste Burial Center, it is necessary to obtain permission from the Nuclear Regulation Authority. To set up a disposal site for industrial or other ordinary waste, permission from the prefectural governor is necessary. Despite this fact, the Law on Special Measures Concerning Contamination by Radioactive Materials does not have any provisions concerning this rule. For this reason, the Ministry of the Environment is able to establish on its own disposal sites for designated radioactive wastes and interim radioactive waste storage facilities, such as the one now being constructed near the Fukushima nuclear accident site, without obtaining any permission. Moreover, the Environment Minister is authorized to examine, provide guidance, and issue orders to improve such facilities. This gives the impression that the law was legislated for the benefit of the Environment Ministry.

Another problem with the law is that it has no provision for regular inspections, although it is mandatory for operators of radioactive waste disposal sites and similar facilities to have such provisions.

It is the basic policy of the law that the annual radiation exposure dose to local residents caused by the radioactive waste disposal operations should be held below 1 millisievert. The dose limit is the same as that for ordinary citizens, and the setting of this limit, without taking into account the additional risk for the local residents, is impermissible.

Citizens' stance on the problem of radioactive waste disposal sites

Even though I am willing to show respect for the actions to present counterproposals by the Citizen's Commission on Nuclear Energy[2] and others, I believe that we should firmly maintain the stance that it is impossible to dispose of radioactive waste. Provisional storage of radioactive waste is premised on disposal and seems to be inappropriate. Reversibility and retrievability are currently being discussed concerning the disposal of high-level radioactive waste, but once the groundwater is contaminated, it is no easy matter to purify the water, and disposal of radioactive waste with reversibility is not possible even in the future. We must learn a lesson from the fact that the 2011 Fukushima accident has been polluting the environment and that people living in those areas are still enduring great distress. It is said that continuing storage would impose burdens on future generations, but I think priority should be placed on the sense of security we can feel from the fact that the contaminated waste remains under control.

Quite a large number of people would probably side with me and support this fundamental principle. If so, confusion in various parts of this country will not be settled as long as the Environment Ministry sticks to the disposal policy.

Ensuring equality among regions

In Ibaraki Prefecture, as shown in the table on the previous page, the dispersal storage policy is being taken because the local mayors have refused to follow the Environment Ministry's disposal policy. The ministry, however, says this dispersal storage policy cannot be adopted in the same way in Miyagi and Tochigi Prefectures. This is because there are large amounts of radioactive waste from public facilities in Ibaraki Prefecture, such as sludge from the water supply and sewerage systems, while there is a great amount of contaminated agricultural waste, such as rice straw and manure, that is being kept on local residents' private property in Miyagi and Tochigi Prefectures.

In fact, as many as 439 bags containing radioactive waste were swept away when torrential rains hit Iitate Village, Fukushima Prefecture in September, and some of them became unrecoverable. Similar incidents must not happen again. How about a plan to build robust storage facilities on the premises of local government offices and electric companies' property in order to store such waste there?

Even if we say we should store the radioactive waste, there will be a problem of where it should go in the next stage. It is not easy to come up with a policy that ensures fairness among the local communities concerned and form a consensus among them through democratic procedures.

As for the problem of the designated radioactive waste, not only selection of candidate sites but also the disposal policy itself should be widely discussed. It may serve as a test for resolving the problem of disposal sites for high-level radioactive waste, as the government is also adopting the same policy of receiving offers from local governments in selecting these candidate sites.

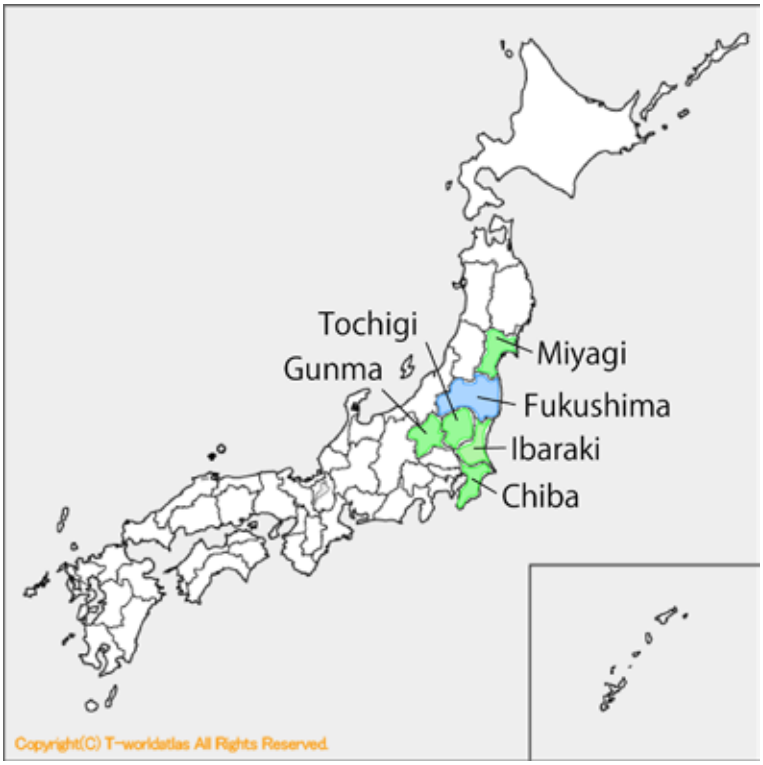


***Figure 3**. Area where construction of long-term management facilities is planned*

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1) Kazuhide Sueda is a member of the Radioactive Waste Campaign Kansai. He maintains a website called "The Story about the Environment and Nuclear Power" in Japanese. http://homepage3.nifty.com/ksueda/

2) http://www.ccnejapan.com/?page_id=1422

Reference Material:

Radiation Exposure Data for Nuclear Power Plant Workers (Fiscal Year 2014)

Teble 1.
FY2014 data on radiation exposure of workers at nuclear reactor facilities for power generation (including Fugen and Monju)

Plant	Attribution	Effective dose level [mSv per person]										Total	Collective effective dose	Average effective dose	Maximam effective dose
		～5	5～10	10～15	15～20	20～25	25～30	30～35	35～40	40～45	45～	(man)	(man･Sv)	(mSv)	(mSv)
Tokai	Power Company	247	0	0	0	0	0	0	0	0	0	247	0.00	0.0	0.18
	Subcontractor	700	0	0	0	0	0	0	0	0	0	700	0.00	0.0	0.27
	Total	947	0	0	0	0	0	0	0	0	0	947	0.00	0.0	-
Tokai-2	Power Company	319	0	0	0	0	0	0	0	0	0	319	0.03	0.1	2.27
	Subcontractor	1,637	46	21	12	1	0	0	0	0	0	1,717	1.36	0.8	20.65
	Total	1,956	46	21	12	1	0	0	0	0	0	2,036	1.40	0.7	-
Tsuruga	Power Company	352	0	0	0	0	0	0	0	0	0	352	0.01	0.0	0.87
	Subcontractor	1,744	1	0	0	0	0	0	0	0	0	1,745	0.21	0.1	3.48
	Total	2,096	1	0	0	0	0	0	0	0	0	2,097	0.22	0.1	-
Onagawa	Power Company	497	0	0	0	0	0	0	0	0	0	497	0.01	0.0	0.7
	Subcontractor	2,152	4	0	0	0	0	0	0	0	0	2,156	0.31	0.1	7.9
	Total	2,649	4	0	0	0	0	0	0	0	0	2,653	0.32	0.1	-
Higashidori	Power Company	277	0	0	0	0	0	0	0	0	0	277	0.00	0.0	0.3
	Subcontractor	809	0	0	0	0	0	0	0	0	0	809	0.07	0.1	4.3
	Total	1,086	0	0	0	0	0	0	0	0	0	1,086	0.07	0.1	-
Fukushima-1	Power Company	1,459	158	52	8	5	6	0	0	0	0	1,688	3.88	2.3	29.50
	Subcontractor	12,671	2,775	1,662	937	357	280	199	161	0	0	19,042	100.69	5.3	39.85
	Total	14,130	2,933	1,714	945	362	286	199	161	0	0	20,730	104.57	5.0	-
Fukushima-2	Power Company	446	0	0	0	0	0	0	0	0	0	446	0.03	0.1	1.88
	Subcontractor	1,324	2	0	0	0	0	0	0	0	0	1,326	0.13	0.1	6.39
	Total	1,770	2	0	0	0	0	0	0	0	0	1,772	0.17	0.1	-
Kashiwazaki-kariwa	Power Company	1,145	0	0	0	0	0	0	0	0	0	1,145	0.06	0.1	1.41
	Subcontractor	4,581	13	0	0	0	0	0	0	0	0	4,594	0.87	0.2	9.77
	Total	5,726	13	0	0	0	0	0	0	0	0	5,739	0.93	0.2	-
Hamaoka	Power Company	779	0	0	0	0	0	0	0	0	0	779	0.03	0.0	1.13
	Subcontractor	3,134	24	1	0	0	0	0	0	0	0	3,159	0.86	0.3	10.64
	Total	3,913	24	1	0	0	0	0	0	0	0	3,938	0.89	0.2	-
Shika	Power Company	387	0	0	0	0	0	0	0	0	0	387	0.00	0.0	0.2
	Subcontractor	1,599	0	0	0	0	0	0	0	0	0	1,599	0.05	0.0	1.7
	Total	1,986	0	0	0	0	0	0	0	0	0	1,986	0.05	0.0	-
Shimane	Power Company	527	0	0	0	0	0	0	0	0	0	527	0.01	0.0	1.1
	Subcontractor	2,428	4	0	0	0	0	0	0	0	0	2,432	0.69	0.3	5.5
	Total	2,955	4	0	0	0	0	0	0	0	0	2,959	0.70	0.2	-
Tomari	Power Company	453	0	0	0	0	0	0	0	0	0	453	0.00	0.0	1.0
	Subcontractor	2,122	0	0	0	0	0	0	0	0	0	2,122	0.12	0.1	2.5
	Total	2,575	0	0	0	0	0	0	0	0	0	2,575	0.12	0.0	-
Mihama	Power Company	452	0	0	0	0	0	0	0	0	0	452	0.02	0.0	0.9
	Subcontractor	1,752	0	0	0	0	0	0	0	0	0	1,752	0.25	0.1	4.0
	Total	2,204	0	0	0	0	0	0	0	0	0	2,204	0.27	0.1	-
Takahama	Power Company	523	0	0	0	0	0	0	0	0	0	523	0.02	0.0	0.9
	Subcontractor	3,837	13	0	0	0	0	0	0	0	0	3,850	0.79	0.2	8.5
	Total	4,360	13	0	0	0	0	0	0	0	0	4,373	0.81	0.2	-
Ohi	Power Company	499	0	0	0	0	0	0	0	0	0	499	0.07	0.1	3.5
	Subcontractor	3,180	66	16	0	0	0	0	0	0	0	3,262	1.70	0.5	13.9
	Total	3,679	66	16	0	0	0	0	0	0	0	3,761	1.77	0.5	-
Ikata	Power Company	409	0	0	0	0	0	0	0	0	0	409	0.01	0.0	1.2
	Subcontractor	2,112	47	28	0	0	0	0	0	0	0	2,187	1.34	0.6	14.7
	Total	2,521	47	28	0	0	0	0	0	0	0	2,596	1.35	0.5	-
Genkai	Power Company	551	0	0	0	0	0	0	0	0	0	551	0.00	0.0	0.2
	Subcontractor	2,730	0	0	0	0	0	0	0	0	0	2,730	0.34	0.1	2.6
	Total	3,281	0	0	0	0	0	0	0	0	0	3,281	0.35	0.1	-
Sendai	Power Company	340	0	0	0	0	0	0	0	0	0	340	0.01	0.0	0.7
	Subcontractor	3,469	8	0	0	0	0	0	0	0	0	3,477	0.77	0.2	8.2
	Total	3,809	8	0	0	0	0	0	0	0	0	3,817	0.77	0.2	-
Commercial plant total	Power Company	9,662	158	52	8	5	6	0	0	0	0	9,891	4.19	*	29.50
	Subcontractor	51,981	3,003	1,728	949	358	280	199	161	0	0	58,659	110.55	*	39.85
	Total	61,643	3,161	1,780	957	363	286	199	161	0	0	68,550	114.76	*	-
Fugen	Power Company	112	0	0	0	0	0	0	0	0	0	112	0.01	0.1	1.87
	Subcontractor	386	0	0	0	0	0	0	0	0	0	386	0.02	0.0	2.54
	Total	498	0	0	0	0	0	0	0	0	0	498	0.03	0.1	-
Monju	Power Company	400	0	0	0	0	0	0	0	0	0	400	0.00	0.0	0.0
	Subcontractor	965	0	0	0	0	0	0	0	0	0	965	0.00	0.0	0.0
	Total	1,365	0	0	0	0	0	0	0	0	0	1,365	0.00	0.0	-
Total	Power Company	10,174	158	52	8	5	6	0	0	0	0	10,403	4.20	*	29.50
	Subcontractor	53,332	3,003	1,728	949	358	280	199	161	0	0	60,010	110.57	*	39.85
	Total	63,506	3,161	1,780	957	363	286	199	161	0	0	70,4113	114.79	*	-

Table 2. FY2014 data on radiation exposure of workers at reprocessing, enrichment and disposal facilities

Facility	Attribution	Effective dose level [mSv per person]		Total	Collective effective dose	Average effective dose	Maximam effective dose
		～5	5＜	(man)	(man･Sv)	(mSv)	(mSv)
Rokkasho Reprocessing Plant	Power Company	1,393	0	1,393	0.01	0.0	0.9
	Subcontractor	4,190	0	4,190	0.13	0.0	4.1
	Total	5,583	0	5,583	0.14	0.0	-
Rokkasho uranium enrichment plant	Power Company	190	0	190	0.00	0.0	0.26
	Subcontractor	373	0	373	0.00	0.0	0.16
	Total	563	0	563	0.00	0.0	-
Low-Level Radioactive Waste Disposal Center	Power Company	81	0	81	0.00	0.0	0.02
	Subcontractor	221	0	221	0.00	0.0	0.01
	Total	302	0	302	0.00	0.0	-

Table 3. FY2014 data on radiation exposure of workers at nuclear fuel fabrication facilities

Facility	Attribution	Effective dose level [mSv per person]		Total	Collective effective dose	Average effective dose	Maximam effective dose
		～5	5＜	(man)	(man･Sv)	(mSv)	(mSv)
Mitsubishi Nuclear Fuel (MNF)	Power Company	313	0	313	0.00	0.0	0.4
	Subcontractor	120		120	0.00	0.0	0.0
	Total	433		433	0.00	0.0	-
Nuclear Fuel Industries,Ltd. (Tokai)	Power Company	219		219	0.02	0.1	1.3
	Subcontractor	66		66	0.00	0.0	0.5
	Total	285		285	0.02	0.1	-
Nuclear Fuel Industries,Ltd. (Kumatori)	Power Company	177		177	0.00	0.0	0.2
	Subcontractor	82		82	0.00	0.0	0.0
	Total	259		259	0.00	0.0	-
Global Nuclear Fuel-Japan Co., Ltd. (GNF-J)	Power Company	300		300	0.02	0.1	1.5
	Subcontractor	217		217	0.00	0.0	0.0
	Total	517		517	0.02	0.1	-

Table 4. FY2014 data on radiation exposure of workers at other facilities

Facility	Attribution	Effective dose level [mSv per person]		Total	Collective effective dose	Average effective dose	Maximam effective dose
		～5	5＜	(man)	(man･Sv)	(mSv)	(mSv)
Other R&D Facilities	Power Company	3,495	1	3,496	0.1246	*	7.6
	Subcontractor	4,911	1	4,912	0.3898	*	5.2
	Total	8,406	2	8,408	0.5140	*	-

**:The cells are blank because the values cannot be calculated from the published data*

Who's who

Emika Massion Crisscrossing Hokkaido to Take on Nuclear Waste Issues

Yoshiki Kobayashi*

I first met Emika Massion no more than four years ago, just after the March 11 earthquake disaster, but despite a generation's disparity in our ages, we have remained close friends ever since.

She was born in 1962 in Sapporo. She has made her career as a copperplate engraving artist, botanical artist, and lecturer on art. Thirty years ago she moved to Kushiro, where she worked for 17 years as a full-time art instructor at a private vocational college.

Her father was exposed to black rain[1] from the atomic bombing of Nagasaki on August 9, 1945, when he was 13, and from age 56 he began developing cancers in various parts of his body. He lived on, however, until age 70, so Emika had heard a lot about her father's experiences after being exposed. Being the child of a radiation victim, she developed stomach cancer at an age 11 years younger than her father, and underwent surgery to remove her entire stomach along with her gallbladder. She could never be considered to enjoy good health, but she has a strong sense of mission and continues to work actively to an amazing degree. She is well aware that it is the understanding and support of her husband, Stuart Massion, an American of German descent, that makes this possible for her.

After the Chernobyl disaster, she directed efforts for receiving children from Belarus through the "Kushiro Bridge to Chernobyl" initiative for five and a half years. In the sixth and seventh year of the program, she became a foster parent, receiving three girls at her home for 90 days each. She was motivated to become an anti-nuclear activist when she learned that nuclear power plants providing energy were also the source of materials for nuclear bombs and she became aware that these materials are extremely harmful to living things. Another consequence of nuclear power is nuclear waste, an issue that she is currently taking on.

Right after the Chernobyl disaster, she stayed in a tent village in front of the Hokkaido Electric Power Company for a while and provided support to her companions who climbed up a pylon to stop electric transmission as part of a citizens movement opposed to the construction of the Tomari NPP Unit 1, Hokkaido's first nuclear reactor. She also participated in a protest at the plant's gate on July 22, 1988, when nuclear fuel was being transported into Hokkaido for the first time.

Ms. Emika Massion

Locally, she continued publishing a mini newsletter called "Doutou Kazashimo Tsushin" (Hokkaido East Downwind News). At that time, she invited Jinzaburo Takagi, an expert on nuclear chemistry, to Sapporo, and also presided over a speaker training course.

Her current stances and activities since the time of the earthquake disaster span a diverse range as follows: Hisaisha Shien Network KUSHIRO (secretary-general), Becquerel Free Hokkaido (representative), Kakugomi Mondai Kenkyukai ("Nuclear Waste Issues Study Group"; promoter), Shut Tomari (member), Tomari Genpatsu no Hairo wo Mezasu Kai ("Association for the Decommissioning of the Tomari NPP"; Head of publicity and problems of deep geological disposal of high-level radioactive waste; plaintiff), Ohma Genpatsu Kensetsu Sashitome Saiban ("Case for Injunction to Stop the Ohma NPP Construction"; plaintiff), and No-Nukes Net Kushiro (member). This year, she has also begun interacting with Hibakusha to Nisei no Kai ("Association of Exposure Victims and their Offspring").

* *Co-Representative, Shut Tomari*

1) Rain heavily polluted with radioactive materials, which fell after the atomic bombings of Hiroshima and Nagasaki.

NEWS WATCH

Reactor Restarts Proceeding

We previously reported (NIT No. 168) that Unit 1 (PWR, 890 MW) at Kyushu Electric Power Company's Sendai NPS was restarted on August 11 and began generating and transmitting electricity on August 14. This ended nearly two years of zero reliance on nuclear power in Japan, dating from September 15, 2013. On October 15, Unit 2 of the same plant (PWR, 890 MW) was also restarted, and began generating and transmitting electricity on October 21.

In addition, a preoperational inspection of Unit 3 (PWR, 1,180 MW) at Kansai Electric Power's (KEPCO's) Takahama NPP began on August 17, and an application for Unit 4 (PWR, 1,180 MW) to undergo a preoperational inspection was filed with the Nuclear Regulation Authority (NRA) on October 14. Regarding these two reactors, however, a temporary injunction was handed down by the Fukui District Court on April 14, prohibiting their operation (see NIT No.166). These preoperational inspections are going forward in defiance of the injunction, but unless the injunction is rescinded in accordance with KEPCO's request, these reactors cannot be restarted.

Hoping to restart Unit 3 (PWR, 890 MW) at the Ikata NPS, Shikoku Electric Power Company (Yonden) received permission from the NRA to modify its nuclear reactor facilities to meet the new regulatory standards. On October 22, Mayor Kazuhiko Yamashita of Ikata conveyed his agreement to the restart to Governor Tokihiro Nakamura of Ehime Prefecture, who hand delivered his written prior approval to Yonden president Hayato Saeki on October 26. If approval is received from the NRA for the construction plans and changes in safety regulations, the conditions for the restart will be fulfilled.

Worse yet, if Takahama Units 3 and 4 or Ikata Unit 3 are restarted, it is thought that the reactor cores are likely to be loaded partially with MOX fuel.

Worker's Accident Recognition for Fukushima NPS Employee

The Tomioka Labor Standards Inspection Office in Fukushima Prefecture formally recognized on October 20 that a former male employee who developed leukemia after being exposed to radiation during clean-up operations at the damaged Fukushima Daiichi Nuclear Power Station (FDNPS) was a case of a work-related illness. The man worked at a number of nuclear power plants as a construction company employee from November 2011 to December 2013, during which time he spent more than a year from October 2012 in work that included installing covers on the damaged reactors at FDNPS. His cumulative exposure dose was 19.8 mSv, of which 15.7 mSv came from his work at FDNPS.

Thus far, eight workers have filed for worker's accident recognition with regard to recovery work at the disabled Fukushima plant, but this is the first case to receive recognition. Three of the cases did not receive recognition, and three are still under investigation. In one case, the application was retracted.

Nationwide Organization for Nuclear Accident Refugees

The refugees displaced by the Fukushima nuclear accident have formed the "Nationwide Refugees Association to Seek the 'Right to Refuge,'" holding a founding assembly in the House of Councilors Members' Office Building on October 29. Refugees from Fukushima Prefecture numbered more than 100,000 as of the end of September (of which about 44,000 had taken refuge outside the prefecture), but it is not known how many refugees have moved from locations outside Fukushima Prefecture to other places. The total number of refugees from the Great East Japan Earthquake, including those who left for reasons other than the nuclear accident, is said to exceed 190,000.

TEPCO Officials Case Involving Oceanic Release of Contaminated Water Sent to Public Prosecutor

Suspecting the oceanic release of contaminated water as a result of the Fukushima nuclear accident to be a violation of the Environmental Pollution Offense Law, on October 2 the Fukushima Prefectural Police sent the case, involving TEPCO as a corporate entity and 32 of its former and current officials, to the Fukushima District Court. The charges filed by the Fukushima Nuclear Disaster Criminal Complainants group were accepted in September 2013 and the investigation has proceeded since that time.

High Court Orders Removal of Denuclearization Group's Tents from in Front of METI

The Tokyo High Court on October 26 upheld the Tokyo District Court's decision on February 26 ordering removal of three tents erected on METI's premises by a citizens group that has continued to appeal for denuclearization, and ordering payment of about 21,000 yen per day for use of the space, dismissing the citizens group's appeal. The tents were erected on September 11, 2011, and have been maintained for more than 1500 days.

Memorandum on Technical Cooperation between JAPC, Marubeni Utility Services and Kazatomprom

The Japan Atomic Company (JAPC) and Marubeni Utility Services, Ltd. announced their conclusion of a memorandum of understanding on cooperation with the National Atomic Company Kazatomprom Joint Stock Company of the Republic of Kazakhstan in the field of nuclear power. In his talks with President Nazarbayev of Kazakhstan, Prime Minister Shinzo Abe, who was the first to sign the memorandum, expressed his intention for Japan to participate in the planning for nuclear power facility construction in Kazakhstan.

Sea-side Impervious Wall Completed at Fukushima Daiichi NPS

To stop the flow of about 400 tons per day of contaminated groundwater from the site of the FDNPS into the port, an impervious wall with a total length of about 780 meters was completed in the port on October 26. Construction of the wall began in April 2012 and was nearly completed by that summer, with the exception of a portion of about 10 meters. This was left open because if it were blocked, the water table at the site would rise due to groundwater flowing into it, increasing the amount of groundwater flooding the reactor buildings (see NIT No.166).

Operations to pump up groundwater from the sub-drains in the vicinity of the buildings and release it into the sea commenced in September 2015, and it was decided to close off the opening in anticipation of the start of pumping and release of sub-drain groundwater near the impervious wall in October. The flow of groundwater into the port is expected to decrease to about 10 tons per day.

Governmental Measures for Spent Fuel

The Japanese government held a meeting of ministers involved in the permanent disposal of high level radioactive waste on October 6, and drew up an action plan for measures to deal with spent fuel. The action plan incorporates the establishment of consultative conferences consisting of the government and nuclear power companies, a request to the companies to draw up plans promoting measures for spent fuel, and a review of the subsidy system that favors dry cask storage in particular.

Memorandum on Technical Cooperation between Mitsubishi Heavy Industries and Engie

Mitsubishi Heavy Industries, Ltd., announced on October 9 that it had concluded a memorandum of understanding on comprehensive cooperation with France's major electric power and gas company, Engie (formerly GDF Suez), on technical development in the energy field. Their fields of collaboration will span a diverse range, including thermal power, nuclear power and renewable energy.

Nuke Info Tokyo is a bi-monthly newsletter that aims to provide foreign friends with up-to-date information on the Japanese nuclear industry as well as on the movements against it. It is published in html and pdf versions on CNIC's English website: http://cnic.jp/english/

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Editor: Nobuko Tanimura
Translators: Tony Boys, Sumie Mizuno, Mayumi Nishioka, Pat Ormsby
Proofreaders: Tony Boys, Yukio Yamaguchi, Hajime Matsukubo