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Citizens' Nuclear Information Center

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Fukushima Nuclear Power Station: Radioactive contamination spreading daily Concerns about damage to health due to radiation exposure



Workers boarding bus to Fukushima Nuclear Power Station from J-Village bus station-Photo released by TEPCO

Damage from radioactivity released from the Fukushima Daiichi Nuclear Power Station is spreading and there are no signs of the situation being brought under control. The Japanese Government is responding by relaxing radiation safety standards and trying to force people to continue to live in affected areas by claiming that these areas are safe.

However, radioactive contamination is spreading day by day and radioactive substances are turning up in agricultural and fishery products. In addition to external radiation exposure, internal exposure through food also has a very great effect on human health. In the current situation, where the state of the reactors is not clear, we must assume that damage from radioactive contamination will continue to spread.

198.5 person-sieverts collective dose to workers from March 11 to the end of September
How much radiation must workers be exposed to before the situation is brought under control?

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Table 1; Total value of external and internal exposure levels of emergency workers at Fukushima Daiichi Nuclear Power Station between March 11 and September 30.

Cumulative Dose	Total number of workers	TEPCO employees	Subcontractors
Over 250 mSv	6	6	0
200-250 mSv	3	1	2
150-200 mSv	20	18	2
100-150 mSv	133	110	23
50-100 mSv	588	297	291
20-50 mSv	2,193	640	1,553
10-20 mSv	2,633	479	2,154
Less than 10 mSv	11,340	1,630	9,710

* Maximum 678.08 mSv

On October 31, Tokyo Electric Power Company (TEPCO) released dose figures for radiation exposure to workers involved in emergency work between March 11 and September 30. The figures are cumulative up to the end of September. Internal and external doses were added and broken down on the basis of the month in which the workers began emergency work. Only workers who received whole body counter measurements up to October 21 are included. People who worked at sites other than the Fukushima Daiichi Nuclear Power Station are not included.

Based on this document, the collective dose came to a huge 198.5 person-sieverts. Compare that to the total collective dose of 82.08 person-sieverts for all Japan's nuclear power plants during the whole of the 2009 fiscal year. How much radiation must workers be exposed to before the situation is brought under control?

A March 15 ministerial ordinance raised the dose limit for workers in emergency situations from 100 mSv to 250 mSv. This led to a serious increase in effective radiation doses. The rules were changed again on April 28 so that workers could continue working after their radiation exposure had exceeded the annual limit of 50 mSv. It is also reported that there are people who have been made to work without dosimeters and that there are some workers of unknown identity among the workers participating in the operations at Fukushima Daiichi. Not only has the dose limit for workers been raised, but in the confusion of the nuclear accident it is undoubtedly true to say that the radiation dose management has become sloppy and workers have been exposed to excessive doses of radiation.

On September 5 the Ministry for Economy Trade and Industry's Nuclear Industrial Safety Agency (NISA) released its 2010 Fiscal Year (April 2010 to March 2011) report on radiation exposure incurred by people working at nuclear power facilities. The Japanese report ("Concerning the status of radioactive waste management at nuclear

power facilities and radiation dose management of radiation workers") is available at the following link: <http://www.nsc.go.jp/anzen/shidai/genan2011/genan067/siryos.pdf>

The crucial columns for TEPCO's Fukushima Daiichi and Daini Nuclear Power Stations are left blank. The government said, "At present, the company is still carrying out its assessment. When [the data] is submitted we will collate it and issue a report"

In this inadequate report the highest dose was 19.6 mSv for a subcontractor worker at Tsuruga, while the highest dose for a power company employee was 13.1 mSv at Mihama. Units 1 of both the Tsuruga Nuclear Power Station and the Mihama Nuclear Power Station have been operating for over 40 years. There are serious problems with the operation of these nuclear power stations, so naturally worker exposure has increased.

Negotiations with the bureaucracy concerning problems of radiation workers

Along with the Japan Occupational Safety and Health Resource Center, Campaign Against Radiation Exposure and other NPOs, Citizens' Nuclear Information Center has held negotiations with relevant government agencies at a rate of about once a month.

The negotiations have covered the following issues:

1. A request for clarification of the basis for raising the emergency dose limit for workers from 100 mSv to 250 mSv;
2. A request for clarification of the basis for allowing workers to continue working after exceeding the annual dose limit of 50 mSv;
3. A request for clarification of the criteria for "emergency work";
4. A request for publication of documents related to discussions between the Ministry of Health Labour and Welfare (MHLW) and NISA;
5. A rejection of the government's relaxation of the dose limit for workers engaged in emergency work. The dose limit should not be raised simply as a means of making workers deal with the nuclear accident;
6. If the danger from the nuclear earthquake disaster is unprecedented, all nuclear power plants in Japan should be closed down and priority given to bringing the current disaster under control. To that end, the necessary experienced workers should be sent to work at the Fukushima Daiichi Nuclear Power Station.

Our negotiations have had some successes. As a result of freedom of information requests, documents have gradually been released. We also were able to expose the circumstances behind the raising of the emergency work dose limit to 250 mSv. Aiming for the removal of the individual dose limit that had existed prior to the Fukushima Daiichi nuclear accident, NISA deliberately over-

estimated the number of workers required for emergency work (to make it look as if there were insufficient numbers of workers to do the work) and demanded that MHLW compromise.

We are currently demanding the following:

1. Application of a 100 mSv dose limit for all workers engaged in emergency work;
2. Adherence to the limit of 50 mSv in a single year and 100 mSv over five years under the Ordinance on Prevention of Ionizing Radiation Hazards;
3. Publication of the data that forms the basis for calculations by TEPCO, Hitachi and Toshiba of the number of emergency workers required until completion of stage 2 of TEPCO's roadmap, as well as the data that forms the basis for calculations of worker radiation doses.

Radiation work at sites other than Fukushima Daiichi Nuclear Power Station

Due to the fact that large quantities of radioactive material have spread over a wide area, high concentrations of radioactivity have been detected in sludge and ash from sewerage treatment facilities and incinerators. During negotiations with the government about radiation exposure issues for workers working at these facilities, we demanded application of the Ordinance on Prevention of Ionizing Radiation Hazards, specification of radiation control zones, and assignment of officers responsible for radiation control. MHLW responded that it would draft a second ordinance on ionizing radiation and is aiming for it to come into effect on January 1, 2012.

Mikiko Watanabe (CNIC)

Redesign the Niigata Method Close Down the Kashiwazaki-Kariwa Nuclear Power Station

There is no end in sight to the accident at Tokyo Electric Power Company's (TEPCO) Fukushima Daiichi Nuclear Power Station. No one knows what type of damage has occurred where inside the reactor and containment vessel. Each hour 100,000,000 becquerels of radioactive material continues to be released into the environment. On November 2 TEPCO discovered very small quantities of Xenon-133 and Xenon-135 at Fukushima Daiichi Unit 2. TEPCO asserts that this was caused by spontaneous fission not a prompt criticality, but the truth of the matter is still not clear. The reactor still has not been brought under control.

The combined capacity of TEPCO's Fukushima Daiichi and Fukushima Daini Nuclear Power Stations is 9.1 GW, while the Kashiwazaki-Kariwa Nuclear Power Station (KK) has a total capacity of 8.2 GW. Of all this only KK Units 5 and 6, representing 2.46 GW, are operational. KK Units 5 and 6 are due to enter periodic inspections in January and March next year, respectively, so in March 2012 TEPCO will have no nuclear reactors in operation.

Even if Fukushima Daiichi and Daini are decommissioned, TEPCO still hopes to continue operating all its KK reactors, but that is also likely to be very difficult.

In July 2007 all seven KK reactors were shut down due to the Chuetsu-Oki Earthquake. Niigata Prefecture has three committees considering the technical pros and cons of restarting the reactors. Two of the committees are subcommittees of the other parent committee, which delivers judgments on the basis of the debate within the subcommittees.

The parent committee, the Technical

Committee into Safety Management of Nuclear Power Plants in Niigata Prefecture (Technical Committee, 14 members), has met three times since the March 11 Great East Japan Earthquake, on May 19, June 21 and October 22. The Subcommittee into Earthquake and Ground Condition (6 members) has met twice, on August 11 (26th meeting) and August 30 (27th meeting), but the last time the Subcommittee into Equipment Integrity, Earthquake Resistance and Safety (8 members) met was its 51st meeting held on March 8, immediately before the Great East Japan Earthquake. It should quickly reconvene to consider the relevance of the earthquake-induced damage to the equipment and machinery of Fukushima Daiichi to the situation at KK.

Nuclear advocates have lost both map and compass

As a result of the March 11 Fukushima Daiichi nuclear earthquake disaster, the government's standards for assessing the safety of nuclear power plants are in disarray. Faith in the people whose responsibility it was to assess nuclear safety has totally dissipated.

The government's current position is that the safety of all Japan's nuclear power plants will be judged on the basis of stress tests. However, there are problems with the Japanese stress tests in regard to both method and the fact that the assessment standard itself has not been determined. The Fukushima Daiichi accident still has not been brought under control and there are divergent views about the causes of the accident. In regard to Unit 1 at least, Mitsuhiro Tanaka's interpretation that pipes were damaged as a result of the earthquake is more plausible than the "unpredictable tsunami" interpretation touted by TEPCO and the

government. Under the current circumstances, it is impossible to establish assessment standards.

The Nuclear Industrial and Safety Agency will draw up a proposal after hearing the views of 11 experts. On October 28, Kansai Electric Power Company (KEPCO) submitted documents for Ohi-3, as the first cab of the rank. The first hearing was held on November 14. Many people at the hearing voiced the stark opinion that “there are flaws in the nuclear power plant safety review procedures.”

Redesign the Niigata Method

Niigata Prefecture’s two subcommittees engaged in serious debate, and did not simply accept whatever TEPCO told them. However, looking back, in light of the March 11 Fukushima Daiichi nuclear-earthquake disaster, the level of debate so far is probably insufficient to prevent accidents of this type occurring. It is no longer possible to avoid the redesign of these subcommittees and the Niigata method itself. I suspect that is the reason why the Subcommittee into Equipment Integrity, Earthquake Resistance and Safety has not reconvened since the disaster.

Allow me to explain briefly what this Niigata method is. The outcome of assessment committees and review committees established by the central government or prefectures had always been a foregone conclusion from the moment the committee members were selected. Niigata Prefecture established the Technical Committee after TEPCO cover-ups were revealed in 2002. The two subcommittees were subsequently established after the Chuetsu-Oki Earthquake. These two subcommittees both included among their members academics who took a critical position. This was quite extraordinary. To put it another way, Niigata Prefecture, host to the largest nuclear power station in the world, opened a chink, however small, in the defenses of Japan’s “nuclear village.”

But there were problems with the Niigata method, some of which are listed below, along with some pointers to the future.

1. Inadequate debate

The Technical Committee was not a forum for real debate. There were 14 members, but since they all had their own specialist fields, the arguments of the specialists in each field were accepted without debate among the members. Furthermore, the chairs of the two subcommittees, who were also members of the Technical Committee, presented the subcommittee debate in a formalistic manner, failing to correct misconceptions within the Technical Committee about the deliberations of the subcommittees.

2. Unreasonable “engineering judgments” by subcommittee chairs

All too often, when they should have given serious consideration to the debate within their subcommittees, the chairs lent their support to TEPCO, which simply reiterated its subjective

“engineering judgments.” These “engineering judgments” were effectively conclusions that had no rational explanation. They were based on instincts built up over the years of what was within the bounds of predictability, and sometimes they could be wrong.

The reality was that there was little option but to rely on “engineering judgments” in the huge and complex structures that nuclear power plants are. For example, a huge number of parts are manufactured in factories, and when they are welded together at the nuclear power plant worksite they do not join up as shown on the blueprint. This is sometimes due to the skill of the workers. Now that we have experienced the huge disaster of March 11, we have learned the lesson that “engineering judgments” must not be relied upon for the grey areas that that cannot be scientifically measured. The subcommittee chairs cannot be too cautious in their facilitation. In light of March 11, the chairs must understand that they may have to take responsibility for their actions.

3. Include more critical members

Although critical academics participated in the Niigata method, they were in the minority. The membership should be at least 50-50. In fact, we need to realize that the time has come for critics to be in the majority.

4. A forum for local resident stakeholders

In the Niigata method the committee members were all academics. This has to be changed. It is essential that concerned residents be involved. They know the local ground condition and are familiar with the operating conditions of the nuclear power station from the time it was first established. It is simply not possible to assess nuclear safety and address residents’ concerns with a membership made up solely of experts from narrow fields. Furthermore, residents are primary stakeholders; if there is an accident they will be the victims.

In view of the above, rather than restarting the reactors, it is essential to establish a new system to thoroughly debate the future of KK, including the option of closing it down permanently. To summarize the above discussion:

1. The Niigata method should be redesigned with the full participation of residents of the local area and the wider prefecture citizenry.

2. The work of the secretariat should not be left to the Prefecture’s Nuclear Safety Response Section. A joint system should be established that includes residents of the local area and the wider prefecture citizenry.

The lessons of this tragedy must be fully learnt in order to prevent a Fukushima catastrophe happening in Niigata.

Yukio Yamaguchi (CNIC Co-director)

Conference Report

“Climate and Energy Forum: Towards Energy Efficiency & Safe Options”

I was invited to participate in a conference entitled “Climate and Energy Forum: Towards Energy Efficiency & Safe Options,” held in Malaysia. The conference took place over four days, from October 8 to 11, at the University of Malaysia in Kuala Lumpur. It was organized by three major Malaysia-based organizations, the Sahabat Alam Malaysia (SAM) or Friends of the Earth Malaysia, the Consumers Association of Penang (CAP), and the Third World Network, as well as by the Friends of the Earth Japan. The first two days were taken up with report presentations and discussion sessions, which continued from morning till night. On the 10th, the represented NGOs had a day-long discussion about future actions. A press conference was held on the morning of the 11th, marking the end of the Forum.

Participants from Japan were Ms. Eri Watanabe of the Friends of the Earth Japan, Mr. Seiichi Nakate of the Fukushima Network for Saving Children from Radiation, and myself. Participants from other countries included Dr. Jim Green from the Friends of the Earth Australia, two delegates from the Korean Federation for Environmental Movement (KFEM) including Ms. Kim Hye Jeong, and three delegates from the Alternative Energy Project for Sustainability (AEPS), Thailand, including Mr. Santi Choakchaichamnankit.

The reason why the conference was held in Malaysia was to express protest against the nation’s plan to introduce nuclear power generation in the period between 2013 and 2015. The location of the nuclear power plant is unknown, since the Malaysian government has not officially announced the location. However, if the government plans to start nuclear power generation in 2013 or around that time, it would be no surprise if it had already made an informal decision on the location.

The conference was attended by Malaysian governmental officials in charge of renewable energy, and the officials talked about the current conditions and future plans of the renewable energy sector in the country. Delegates from the renewable energy department of Tenaga Nasional, which is the main electric power provider in Malaysia, were also present, and actively participated in the question-and-answer session. This company used to be run by the government, but has recently been privatized. Nevertheless, it is still virtually a state-run company, because its stocks are held by the government.

With a population of 28.4 million in an area of 330,000 km², which is slightly smaller than the area of Japan, Malaysia has been increasing its gross domestic product by



an annual average of greater than 5% during the last ten years. A skyscraper was under construction in front of the Kuala Lumpur Sentral station, and brisk construction of high-rise apartment buildings is ongoing. Expecting an increase in the demand for electric power in the future, the government regards nuclear power generation as a necessity. On the other hand, NGOs argue that energy-saving efforts should be made and renewable energy promoted. As a country that produces and exports petroleum and natural gas, Malaysia is self-sufficient in energy. Supplied with gasoline at relatively low cost, Malaysian society is dependent on cars, experiencing traffic jams on a daily basis. The power supply in the country consists of 58% natural-gas generation, 33% coal, and 9% hydroelectric power. Of the nation’s total power consumption, 78% is used by the industrial and commercial sectors.

I came across Mr. Gurmit Singh at this conference for the first time in many years. Mr. Singh is representative of the Center for Environment, Technology and Development, Malaysia (CETDEM). He and I were members of the Sustainable and Peaceful Energy Network, which was active for about five years until around 2002. Mr. Singh stressed the importance of energy-saving efforts by energy users. He argued that,

although old facilities could be a bottleneck, users should make energy-saving efforts. He was also critical about Malaysian society's dependence on automobiles.

Concerning renewable energy, the government officials said that the nation plans to proactively promote biomass power generation, small hydroelectric generation and solar generation, and to build facilities that would generate four million kilowatts to accommodate 17% of the peak power demand by 2030. An NGO from the island of Borneo presented a case of small hydroelectric generation. As for wind power, the nation's climate conditions appear not to be suitable. Other presentations included those by groups of citizens opposed to local projects. One was against a thermal power generation project, and another was against large-scale dam construction project. A group of Borneo islanders opposed to a dam construction project also participated.

Regarding nuclear power generation, the Malaysian government plans to purchase uranium from Australia. Participants asked Dr. Green of FoE Australia whether the Australian and Malaysian governments had reached an agreement on the procurement of uranium and whether such information might be available in Australia. It was learned that no confirmed information was available in Australia. There ensued a strong discussion on the poor information

transparency of the two governments. According to statements made during the discussion, the Malaysian government plans to build two one-million-kilowatt reactors by 2020. I also heard that, probably because of the Fukushima Daiichi disaster or perhaps because of Korea's strong ability to negotiate, Korea is currently ahead of Japan in the competition to supply the reactors. Korean participants were asked about the status of nuclear power generation, accidents, and information disclosure in the country.

As participants from Japan, I gave an overview of the Fukushima Daiichi disaster, Mr. Seiichi Nakate introduced the actions by the Fukushima Network for Saving Children from Radiation, and Ms. Eri Watanabe of FoE Japan presented actions in Japan against exporting nuclear power plants. Mr. Nakate was unable to attend the conference on the day when his talk was originally scheduled, and Ms. Watanabe gave a talk in his place. Mr. Nakate talked on the following day, October 10.

Ms. Kayo Sunazawa, who is originally from Japan and is now married and living in Malaysia, participated in the conference, and warmly welcomed the three of us from Japan with abundant local fruits, such as mangos, papayas, and jackfruits. We appreciated them very much.

Hideyuki Ban (CNIC Co-Director)

Global Conference for a Nuclear Power Free World ***January 14-15, 2012 – Yokohama, Japan***

“2012 YOKOHAMA Global Conference for a Nuclear Power Free World” has two aims.

The first is to gather people from around the world in Japan to study the reality of Fukushima, and at the same time to bring together the voices of Global Hibakusha, the victims of nuclear destruction, and create a place where people can learn from each other's experiences. We hope this will signal a world retreat from nuclear power.

The second aim is to assemble the wisdom of the world and make clear the possibility of actualizing a society that does not rely on nuclear power. Beginning from the existing situation with nuclear power, we will draw up a roadmap for a safe nuclear phase-out through policies rooted in natural, renewable energy. We hope to formulate and propose a plan of action to abolish nuclear power that can be adopted by each country of the world, starting with Japan.

Tentative Program

■Plenary Sessions

■Workshops

- 1. Fukushima*** – Raising common global awareness about what is happening in Fukushima
- 2. Renewable Energy*** – Developing alternative sources of renewable energy is realistic and possible
- 3. Safe Withdrawal from Nuclear Power*** – Draw realistic scenarios for complete withdrawal from nuclear power
- 4. Global Hibakusha*** – Realizing the harmful effects of radiation and working towards solutions for people suffering from them

■Events/Exhibitions/Booths

-Exhibition on natural energy from around the world

-Photography exhibitions

-Other exhibitions that people can enjoy visiting even if they do not attend the main assembly.

The Conference will be broadcast globally via the Internet.

Organizers

*CNIC, FoE Japan, Green Action,
Greenpeace Japan, Institute for Sustainable Energy Policies, Peace Boat*

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Website: <http://npfree.jp/english.html>

Japanese Inventory of Separated Plutonium at 31 December 2010

Held in Japan (Quantities shown are kgPu. Amounts shown in brackets are for end of 2009.)

Reprocessing Facilities	JAEA (Tokai)	JNFL (Rokkasho)	Total
Plutonium nitrate etc. (after dissolution up to, but not including, storage in containers as mixed oxide)	672 (673)	279 (279)	951 (952)
Plutonium oxide (stored in containers as mixed oxide)	80 (103)	3,329 (3,329)	3,409 (3,432)
Total Plutonium	753 (777)	3,607 (3,607)	4,360 (4,384)
Total Fissile Plutonium	500 (517)	2,346 (2,346)	2,846 (2,863)

JAEA Plutonium Fuel Fabrication Plant	
Plutonium oxide (stored plutonium in plutonium oxide containers)	1,916 (2,304)
Plutonium in test or fabrication stage	1,026 (1,008)
New fuel etc. (stored as finished fuel assemblies etc.)	424 (171)
Total Plutonium	3,365 (3,483)
Total Fissile Plutonium	2,334 (2,420)

Nuclear Reactors and Other Facilities	Joyo	Monju	Fugen	Commercial Reactors	R&D facilities
Unirradiated new fuel at reactor sites etc.	134 (134)	31 (161)	0 (0)	1,600 (1,458)	444 (443)
Total Plutonium	2,208 (2,196)				
Total Fissile Plutonium	1,549 (1,589)				
Total Plutonium	9,936 (10,063)				
Total Fissile Plutonium	6,730 (6,871)				

Held Overseas (Quantities shown are kgPu. Amounts shown in brackets are for the end of 2009.)
(To be fabricated into MOX fuel overseas and used in Japan's light water reactors.)

Recovered in UK	11,643 (11,531)
Recovered in France	11,730 (12,599)
Total	23,373 (24,130)

NB: Figures only available for fissile plutonium held overseas.

Separated Plutonium in Use from January-December 2010

(Quantities shown are kgPu. Amounts shown in brackets are for the end of 2009.)

Reprocessing Plant	JAEA (Tokai)	JNFL (Rokkasho)	Total
Plutonium oxide recovered	0 (0)	0 (0)	0 (0)
Plutonium in fuel fabrication processes (Monju, Joyo, Fugen, etc.)	412 (191)		
Plutonium loaded in nuclear reactors	1,462 (1,345)		

2010 Balance of Separated Plutonium Held in Japan

Total (kgPu)

Plutonium separated at reprocessing facilities	0
Plutonium loaded into nuclear reactors	-1,462
Variation in processes at each facility	-18
Total imported into nuclear reactors and other facilities	1,352
Balance	-128

JAEA Reprocessing Facility (Tokai) (from separation & purification process to storage of raw materials)		
Items		Increase/Decrease
Inventory as of 1 January 2010 (end of 2009)		777
Total amount of plutonium separated in 2010		0
Total amount of plutonium shipped out in 2010		-23
Variation in processes at reprocessing facilities		-1
Detailed breakdown	Transfer to retained waste	-0.7
	Retransfer from retained waste	0.6
	Nuclear loss	-1.4
	Measured discard	0.0
	Material unaccounted for (MUF)	1.7
Inventory as of 31 December 2010		753

JAEA Plutonium Fabrication Facility (from mixed oxide powder (MOX) raw material to fuel assembly products)		
Items		Increase/Decrease
Inventory as of 1 January 2010 (the end of 2009)		3,483
Total amount of plutonium received in 2010		24
Total amount of plutonium shipped out in 2010		-122
Variation in processes at fuel fabrication facilities		-19
Detailed breakdown	Shipper/receiver difference	0.0
	Transfer to retained waste	0.0
	Retransfer from retained waste	0.2
	Nuclear loss	18.3
	Material unaccounted for (MUF)	0.9
Inventory as of 31 December 2010		3,365

Nuclear Reactors and other Facilities (Joyo, Fugen, Monju, Commercial Reactors, R&D Facilities)		
Items		Increase/Decrease
Inventory as of 1 January 2010 (the end of 2009)		2,196
Total amount of plutonium received in 2010 (including for pluthermal)		-1,462
Total amount of plutonium loaded in nuclear reactors during 2010		1,474
Total amount of plutonium shipped out in 2010		0
Inventory as of 31 December 2010		2,208

JNFL Reprocessing Facility (Rokkasho)		
(from separation & purification process to storage of raw materials)		
Items		Increase/Decrease
Inventory as of 1 January 2010 (end of 2009)		3,607
Total amount of plutonium separated in 2010		0
Total amount of plutonium shipped out in 2010		0
Variation in processes at reprocessing facility		2
Detailed breakdown	Transfer to retained waste	-0.3
	Retransfer from retained waste	0.0
	Nuclear loss	-1.0
	Measured discard	0.0
	Material unaccounted for (MUF)	4.1
Inventory as of 31 December 2010		3,607

On September 20, 2011, the Japan Atomic Energy Commission released the nation's plutonium inventory data as of the end of 2010. The figures in the data show no marked change from last year, which is reasonable because neither the Tokai Reprocessing Plant nor Rokkasho Reprocessing Plant is in operation.

The newly released data has two notable characteristics. One is that the data includes the total amounts of Japan's overseas plutonium inventories. Last year's data are parenthesized. The overseas inventories were not publicized for three years from 2006, and therefore no data are entered for those years in the table. The other characteristic

is that the breakdown of stored plutonium and loaded plutonium is newly disclosed.

The data shows the amounts of plutonium stored or reactor-loaded at individual sites. Hokkaido Electric Power's plan to load MOX fuel has been suspended after it became known that the company had pressured its employees into sending fake email messages supporting its MOX fuel loading plan to the Hokkaido prefectural office. Under these circumstances, the loading of new MOX fuel will be difficult not only in Hokkaido but also at other nuclear power plants.

Hideyuki Ban (CNIC Co-Director)

The 5th reduced-size edition of the Hangenpatsu-Shinbun has been released.

*The edition includes back numbers
301 to 400.*

*Hangenpatsu-Shinbun (Anti-Nuclear
Newspaper) is a long-running monthly
newspaper first published in 1978.*

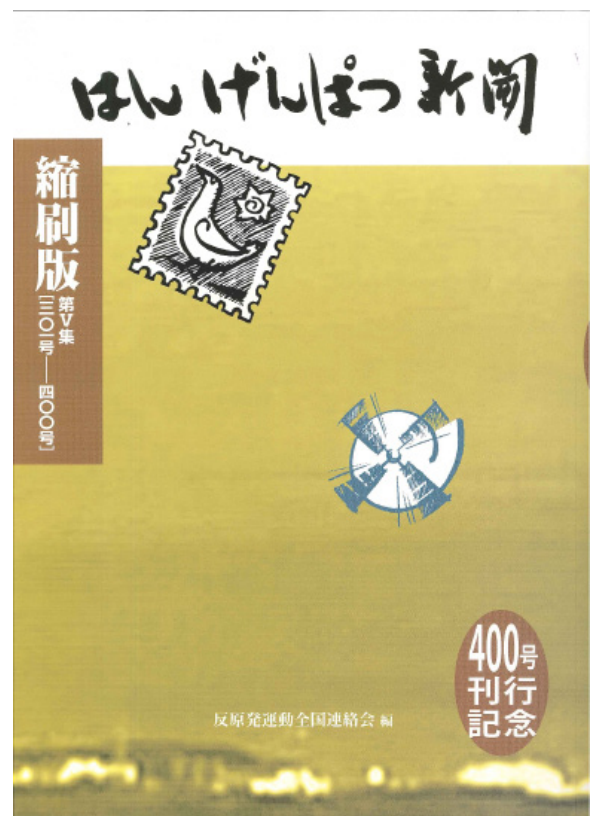
*It provides anti-nuclear activity reports from all
over Japan and monthly-updated information
on nuclear environments and so on.*

~Sorry, Japanese edition only~

For further information:

Website: <http://www.hangenpatsu.net/>

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Anti-Nuke Who's Who

Seiichi Nakate *-I want to protect as many children as possible-* **Spokesman for Fukushima Network for Saving Children from Radiation**

by Eri Watanabe*

“As an adult living in Fukushima Prefecture I stand here with regret. My regret about this accident that cannot be undone stretches beyond the people of Fukushima and Japan to all the people of the world.” Seiichi Nakate spoke these words in front of a group of 40 anti-nuclear activists on July 30 in Tokyo at the No Nukes Asia Forum.

Seiichi Nakate is a spokesman for the Fukushima Network for Saving Children from Radiation. This local network has started after the nuclear accident at the TEPCO Fukushima Daiichi Nuclear Power Station to actively campaign for the protection of children from radiation.

Until now the activities of the network have been a trigger in the withdrawal of the 20 millisievert limit for the usage of school yards and the introduction of the new policy as expressed by the former minister of education Takaki of aiming at 1 millisievert a year. It was 23 years ago that Mr. Nakate became aware of the risks of nuclear power and started to campaign against it. After being active for several years he decided to put more focus on his usual occupation. Last year, however, he was planning to become part of a movement for the decommissioning of unit three of the Fukushima Daiichi Nuclear Power Station, which is loaded with MOX fuel. After the accident he continued to work as an activist in order to help as many children as possible.

The first thing Mr. Nakate did after the accident was to go with three friends and measure the radiation level at school grounds. During the March spring holiday they examined seven different locations and found high levels of radiation. Several locations measured over 10 $\mu\text{Sv/h}$ at soil level, and at one school yard it even reached 108.8 $\mu\text{Sv/h}$. With these results and the message that these levels of radiation are not safe for children, they went to the Fukushima Prefectural Education Commission. They asked the commission for the schools to postpone the traditional April opening of the school year and the placement of dosimeters at all schools in the prefecture. The prefecture decided to force through the opening of the school year, but did initiate an investigation at schools and nurseries at 1600 locations within the prefecture. They found that three-quarters of the locations measured over 0.6 $\mu\text{Sv/h}$, the limit for a radiation controlled area. Moreover 20 percent of the schools crossed the line of 20 mSv/year (2.3 $\mu\text{Sv/h}$). Although the prefecture released the statistics on its homepage, most people did not know how to interpret the numbers. Mr. Nakate and his friends summarized the numbers and assessed them. They had to give the regrettable explanation that three-quarters of Fukushima's children were faced with radiation levels equal to people working at a nuclear power plant.

On May 1, Mr. Nakate and others called a meeting in Fukushima City, and with a group of



The person on the right is Mr. Seiichi Nakate

parents founded the Fukushima Network for Saving Children from Radiation. The network grew rapidly and at present there are groups supporting the network all over Japan. Lately action has been started to get Fukushima City's Watari district, where Mr. Nakate lives, to be recognized by the state as a “specific evacuation recommendation spot.” This would mean that those who voluntarily evacuate from the region are entitled to support for their evacuation. It has been pointed out that the area in the district where the radiation is higher than 20 mSv/year is expanding. However further investigations by the government are taking time and a decision has been postponed.

In the meanwhile, attempts at decontamination have had little effect and some places have even seen a rise in radiation. Fukushima City, just as in Minami Soma City, has no standard criteria on radiation for pregnant women and children. Therefore children in the Watari district are forced to live in areas where they receive high doses of radiation.

Mr. Nakate has reiterated that “When children collapse from disease it is too late to evacuate. Before that happens, all who should evacuate need to be enabled to do so.” Mr. Nakate's wife and two children have evacuated to Okayama (Western Japan). It is not hard to imagine that living in separate places is causing their family a lot of stress. Despite this, Mr. Nakate knows how to negotiate with the government in a calm and serious manner as a gentleman. At present he is continuing actions to extend support and opportunities to evacuate all the people who should do so as quickly as possible.

*Eri Watanabe, NGO Friends of the Earth Japan

NEWS WATCH

Tokai mayor requests decommissioning of Tokai-2

On October 11, Mayor Tatsuya Murakami of Tokai Village, Ibaraki Prefecture, met with the minister in charge of the nuclear crisis, Goshi Hosono, and requested that Japan Atomic Power Company's Tokai-2 Nuclear Plant (BWR, 1100 MW) be decommissioned. On March 11, the reactor shutdown when the earthquake struck, and according to Mayor Murakami, "If a nuclear power regulatory system is not established soon, we will not accept a restart of the reactor." One million people reside within a 30 km radius of Tokai-2, and Tokyo is only 110 km away. More than thirty years have passed since commercial operations began in November 1978, and Mayor Murakami requested that the reactor be decommissioned due to deterioration through aging. Toride City Council, also in Ibaraki Prefecture, issued a statement to the prefecture and government on September 28 requesting that Tokai-2 be decommissioned.

Shizuoka municipalities demand permanent shutdown of Hamaoka Nuclear Plant

On September 26, "Until safety and security are guaranteed into the future, we request the permanent shutdown of the Hamaoka Nuclear Plant," read a statement passed by the Shizuoka Prefecture Makinohara City Assembly, one of the municipalities located within a 10 km radius from Chubu Electric Power Company's Hamaoka Nuclear Plant's three reactors (BWR 1100 MW, 1137 MW, ABWR 1380 MW).

Naoto Kan, when he was Prime Minister in May, requested Hamaoka Nuclear Plant halt operations until completion of the installation of countermeasures for tsunamis and earthquakes. Within the same 10 km radius, a statement passed by Kikugawa City Assembly on September 29 read, "Reactor restarts will not be approved unless residents give consent." Leaders from cities and towns in the area have voiced requests for decommissioning of the Hamaoka reactors.

Nuclear abolition resolutions passed in assemblies nationwide

Besides the municipalities mentioned above, municipality assemblies throughout the country have passed statements and resolutions, and have adopted the petitions of local citizens resolving to abolish or phase out nuclear power, have neighboring nuclear plants decommissioned, oppose nuclear power plant construction, reject pluthermal plans, and so on. On October 20,

the Fukushima Prefectural Council also adopted a petition requesting the decommissioning of all nuclear reactors in the prefecture (10 BWR reactors, total of 9096 MW).

Mongolian government drops nuclear disposal site plans

On September 13 Mongolian President Elbegdorj, in response to reports of ongoing secret talks with both Japan and the U.S. regarding spent fuel storage and disposal plans in Mongolia, issued a presidential order banning negotiations and abandoning the plans. On September 21, President Elbegdorj once again affirmed in the United Nations General Assembly that "Construction plans in Mongolia will absolutely not be accepted."

According to a series of articles in the Mainichi Newspaper, plans and negotiations for the project began in September 2010 when U.S. Deputy Secretary of Energy Poneman visited Mongolia. Japan (METI) and the UAE also participated in mid-2011, and an intergovernmental memorandum of understanding was concluded. In May, the Mainichi Newspaper reported on the secret negotiations, resulting in a sharp backlash in Mongolia, with both governments formally denying the existence of negotiations.

Government still fixated on nuclear power exports

Despite the Fukushima nuclear accident, the Japanese government is still fixated on nuclear power exports. Countries wishing to construct nuclear power plants are also requesting that the plans continue. On September 8 and 9, negotiations with Vietnam were resumed, and on October 31 a governmental agreement was concluded. On September 28, the Japan Atomic Power Company also concluded a contract for a feasibility study with Vietnam's public electricity company.

On October 18, METI's Yukio Edano met with Turkey's Energy and Natural Resources Minister Yildiz in Paris for discussions and requested continued negotiations. At the beginning of October, Jordan made a strong request to the Japanese government for approval of a nuclear cooperation agreement. It was said that if approval is not possible by the end of the year, Jordan will exclude orders from Japanese corporations.

The Japan-Jordan agreement was signed in September 2010. On March 31, 2011 it was ratified in an Upper House plenary session, but

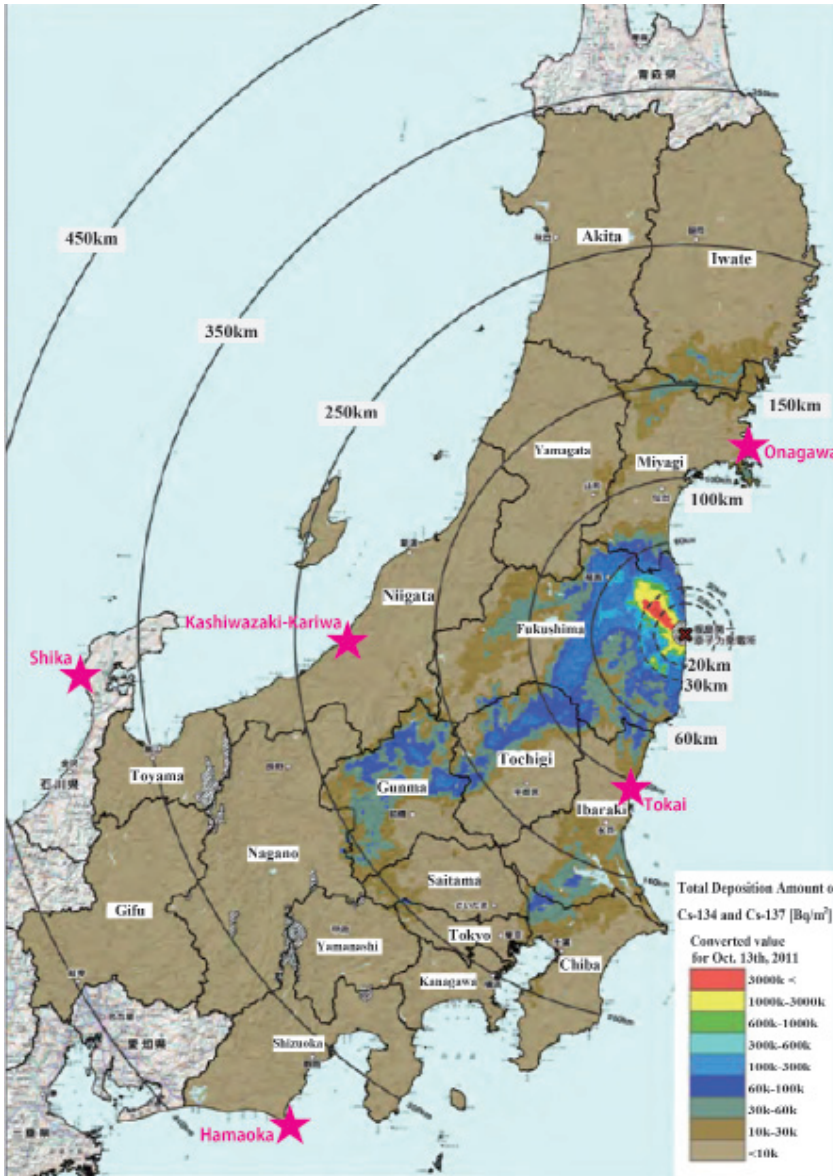
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Japan radioactive contamination map

A map displaying the status of radioactive contamination on Japanese soil has been published. MEXT's investigative results came from large, highly sensitive radiation detectors installed on a helicopter that surveyed gamma rays over a wide area. The gamma ray measurements were converted into soil contamination data, and the Cesium-137 and Cesium-134 totals are displayed on the map.

As understood from the map, topsoil contamination from cesium is not simply confined to Fukushima Prefecture, but

rather extends as a belt across an extensive zone. Within the zone that has now been shown to exist, there is contamination more than 250 km southwest of the Fukushima Daiichi Nuclear Power Station. Furthermore, the contamination does not extend continuously, but sporadically, with occurrences of highly contaminated areas in separated locations. Kashiwa City, Chiba Prefecture, located on the east side of the Tokyo Metropolis, has hot spots with high concentrations of radioactive contamination. Kashiwa is a large city of 400,000 people, but one of the garbage incinerators there has had to halt



operations because it could not securely store additional incinerated ash due to a buildup of large amounts of cesium exceeding the national standards.

Because the prefectures of Tochigi and Ibaraki border Fukushima Prefecture, at the time of the accident there was great concern over radioactive contamination. For three months, the citizens in those prefectures showed a great deal of interest in radioactivity. At the same time, as Gunma does not border Fukushima Prefecture, there was not the same concern. Since the contamination results have been announced, however, CNIC has received continuous consultations from citizens and farmers in Gunma Prefecture.

Nobuko Tanimura(CNIC)

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opposing arguments were put forward in the Lower House, causing a decision to be deferred pending further deliberations. In a visit to Japan by India's Foreign Minister Krishna on October 29, a request was made to Japanese Foreign Minister Koichiro Gemba to resume negotiations for a nuclear cooperation agreement. Foreign Minister Gemba agreed, and Prime Minister Yoshihiko Noda is also in favor of cooperation.

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