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No Nukes Asia Forum 2010



The thirteenth No Nukes Asia Forum (NNAF) was held from September 18 through 21 in Taipei. Fifteen people attended from Japan, India, Indonesia, Korea, Philippines and Thailand, in addition to the participants from Taiwan.

Taiwan was chosen as the venue because of the imminent startup of the No. 4 Nuclear Power Plant. The date was chosen to coincide with the anniversary of a massive M7.6 earthquake that hit Taiwan on September 21, 1999.

NNAF 2010 included country reports and discussion of issues such as earthquake-induced nuclear disasters, global warming and renewable energy. Japanese participants, who have lots of experience dealing with the problems caused by mixing earthquakes and nuclear power, reported on the situation of the Kashiwazaki-Kariwa Nuclear Power Plant, while Japanese and Korean participants confirmed the need to work with activists in other Asian countries to prevent Japan and Korea exporting nuclear power plants.

Despite the fact that Indonesia is subject to the full spectrum of natural disasters, from earthquakes to volcanoes and tsunami, the government still has not given up hope of constructing a nuclear power plant on the Muria Peninsula in Central Java. In the Philippines there is talk of reviving the Bataan Nuclear Power Plant, which, despite being completed 25 years ago, has never operated, but the Philippine participants

inspired us all by reporting that the opposition movement is as vibrant as ever.

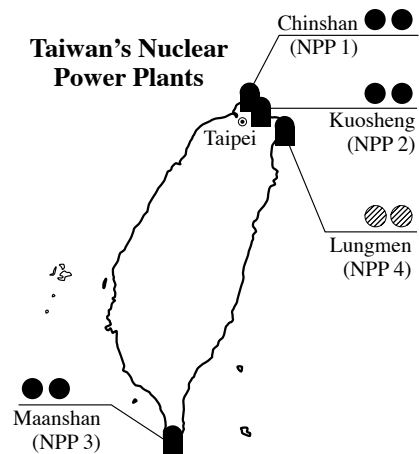
Participants from Thailand informed us that the Thai government plans to shortlist three sites for the country's first nuclear power plant from the current list of 17 sites in the first half of 2011. We therefore decided to hold NNAF 2011 in Thailand.

After the international meetings participants toured Taiwan's nuclear power plant sites. In addition to exchanging

experiences with local activists, we were able to deliver a message to Taipower and Taiwan's Atomic Energy Council at a hearing called by a member of parliament.

By Nozomu Nagai (CNIC)

See the NNAF 2010 joint statement on page 2.



Contents

No Nukes Asia Forum 2010	1,2
Viet Nam chooses Japan as nuclear "partner"	3
Monju: long delay expected	4
KK and Hamaoka-5: shared ground problems	5
Ryusuke Umeda's workers' compo rejected	6
Plutonium Inventory 2009	7-9
Who's Who: Kiyohiko Yamada	10
News Watch	11,12

The 2010 No Nukes Asia Forum Joint Statement September 18-21, 2010 Taipei, Taiwan

Twenty-four years after Chernobyl disaster, the victims and their families are still suffering from the impact and radioactive pollution. The people of Asia continue to be exposed to fear of nuclear disaster and radioactive contamination. Many antinuclear activists, who battled against political and economic authority locally, understood it was important to share information and collaborate internationally for no nuke movement among Asian countries. Therefore, No Nukes Asia Forum, NNAF, was first convened in Japan in 1993. Till now, the mission to stop nuclear threat is not yet accomplished. The greed of multinational corporations, headquartered in some countries such as China, France, Japan, Korea, Russia, and the USA, continues to push nuclear expansion. They take aim at Asian market primary in India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, Taiwan, Thailand, and Vietnam currently, and the menace of nuclear war and disaster continues to proliferate. Recently, nuclear reactors in Kashiwazaki-Kariwa and Hamaoka power plants were damaged or stopped by earthquakes in Japan, further proving that nuclear power is unsafe.

We are delegates from Japan, India, Indonesia, Korea, Philippines, Thailand, and Taiwan to celebrate 2010 NNAF. We have gathered in Taipei for a four-day international conference and activities and have a sense of full trust and solidarity among ourselves. We are proud of having participated in and promoted an Asian anti-nuclear movement over the past seventeen years. We feel invigorated and strive as partners in mission to No Nukes Asia.

Our Stand

1. We advocate the sustainable energy policy. We urge the government of each country to promote energy conservation, enhance energy efficiency, and develop renewable energies. We oppose unsustainable nuclear power.
2. Earthquake damaged Kashiwazaki-Kariwa nuclear power station, the world's biggest nuclear power station in Japan, and caused nuclear waste spill in July 2007. We appeal to the government of each country for enhancing earthquake protection system in the existing nuclear power stations. We also request Taiwan government to stop as soon as possible the operations of all the nuclear power plants, which site in areas of geologic faults.
3. Because of inappropriate construction work and improper management on NPP4, many accidents have taken place during recent test run period. Besides, Taiwan Premier We Den-Yi pushes Taipower to advance the schedule of commercial operation of NPP4. These will increase the possibility of disasters and expose people to great danger. We condemn Taiwan government for its irresponsibility. The test run of NPP4 with nuclear fuel rods filled should not be started before holding the referendum.
4. Climate change induces the extreme weather conditions that result in heavy rains causing massive flooding and landslides. The government of each country should prevent and manage the serious risks of nuclear power plant destruction by climate disaster. Also, nuclear energy is not clean energy and not a solution to climate change. Huge amounts of fossil fuels are used in every stage of the nuclear process and the toxic wastes and radioactive chemicals emitted pose great danger to people's health.
5. Nuclear power endangers the life and property of people. Inappropriate nuclear policy making is also a violation of human rights. We urge the government of each country to assure the civil rights of self-determination. We are in solidarity with the Taiwanese people's action to call for revising the referendum law and holding a referendum on NPP4.
6. We are strongly opposed to Taiwan government's decision to expand the highly energy-consuming, polluting, and carbon dioxide emitting industries (for example, Kuo-Kuang Petrochemical Plant Project), while continuing the construction of the NPP4 and postponing the decommissioning of the existing nuclear reactors.
7. The continued storage of nuclear wastes on Orchid Island has put the lives and the environment of the indigenous Tao people to great risk. We request Taiwan government to seek the speediest and most judicious solution to this, while not to increase the risks to life and the environment in other areas.
8. We call upon the governments of Asian countries to establish an open, transparent, and democratic mechanism for the decision-making of energy policy.
9. We call upon the people of Asia to collaborate on stopping the exporting and importing of nuclear power plants. Exporting and importing nuclear power plants are not only constructing new power plants, but also increasing incidental risk, problems of nuclear wastes and nuclear weapon proliferation in each Asian country. Nuclear power trade also poses a risk for imposing huge economic burdens and debt to developing countries.

All Participants of 2010 No Nukes Asia Forum
September 18-21, 2010, Taipei, Taiwan

Viet Nam Chooses Japan as "Partner for Building two Reactors"

On October 31, Japanese Prime Minister Naoto Kan and Vietnamese Prime Minister Nguyen Tan Dung issued a joint statement stating that the Vietnamese Government had "decided to choose Japan as the cooperation partner for building two reactors at the second nuclear power plant site in Ninh Thuan Province". The statement also indicated that negotiations on the substance of a Japan-Viet Nam nuclear cooperation agreement had been concluded and that the two countries expect to sign the agreement soon.

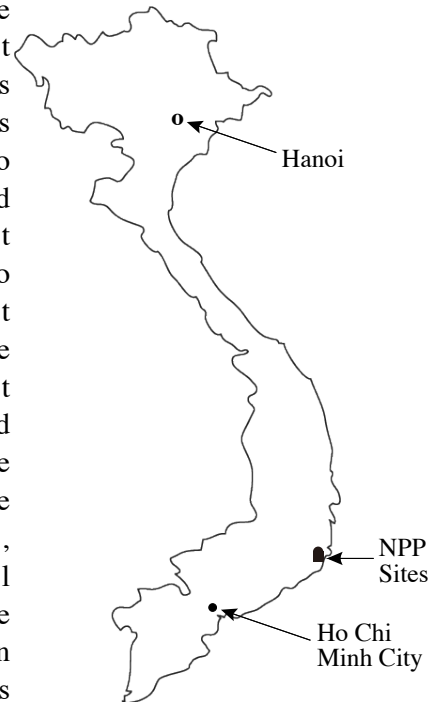
On November 24, 2009 the National Assembly of Vietnam approved a plan to build up to four reactors at two sites with an initial budget of about US\$11 billion. It was reported earlier this year that the Vietnamese Government had chosen Russian technology for the construction of two reactors at its first nuclear power plant site, also in Ninh Thuan Province. On October 31, the same day as the Japan-Viet Nam joint statement, Russian President Dmitry Medvedev witnessed the signing between Russian state nuclear conglomerate Rosatom and the Vietnamese Government of an estimated US\$5.6 billion contract for construction of the two reactors at the first site.

Construction of these nuclear power plants is scheduled to start in 2014, with operations of the first reactor scheduled to start in 2020.

Akihiro Ohata, Minister for Economy Trade and Industry, issued a statement saying that Japan Atomic Power Company (JAPCO) and Vietnam's state-owned utility Electricity of Viet Nam (EVN) would shortly begin a feasibility study and that the recently established International Nuclear Energy Development of Japan Co., Ltd. (JINED - see News Watch on page 11) and EVN would make arrangements to speed up detailed consideration of the construction, operation and maintenance of the nuclear power plants. He also said that related ministries and agencies would work together to assist Vietnam with training, and to put in place safety regulations and related systems.

The Democratic Party of Japan is elated with its "great achievement" in winning Japan's "first nuclear power plant export", something that not even the Liberal Democratic Party could achieve during its many decades in office. But how does

the Japanese Government view its responsibilities in relation to the proposed export? It is hard to imagine that the Vietnamese Government has provided its people with accurate information, or that it will allow genuine participation by the residents



around the proposed site in Ninh Thuan Province's Ninh Hai District. Japan is taking advantage of disparities in access to information and lack of participation in decision-making processes in order to enable it to export nuclear power plants. This is equivalent to engaging in the worst type of polluting export.

Prime Minister Kan gave his assurance that Japan would "meet the conditions that Viet Nam had set out." These conditions were quoted as follows:

"...assistance in conducting feasibility studies for the project, low-interest and preferential loans for the project, use of most advanced technology with highest safety standards, technology transfer and training of human resources, cooperation in the waste treatment and the stable supply of materials for the whole life of the project."

One can only wonder how Japan proposes to meet conditions such as "the highest safety standards" and "waste treatment", when it cannot even fulfill its responsibilities in these areas for Japan's own nuclear program.

The way ahead is completely unclear. During a meeting held on November 2 between the Ministry for Economy Trade and Industry (METI), NGOs and Social Democratic Party leader, Mizuho

Continued on page 4

Failure to Remove Monju Fuel Relay Device

Long delay expected

As reported in NIT 138, on August 26, when a 3-ton relay device used during replacement of fuel in the Monju Prototype Fast Breeder Reactor (280 MWe) was being removed, it dropped back into the reactor vessel.

According to Monju's owner-operator, Japan Atomic Energy Agency (JAEA), the device was supplied by Toshiba.

The relay device was dropped when a "gripper" lost its grip (see diagram in NIT 138). "Grippers" are used to hold 15 other items of equipment besides this relay device. These other grippers are designed in a way that prevents rotation. The only gripper not so designed was the one that dropped the relay device. It seems reasonable to conclude, therefore, that the accident resulted from a design error. The sodium leak and fire accident that occurred at Monju fifteen years ago on December 8 resulted from a design error in the sheath of a thermocouple (see NIT 134). This piece of equipment was also supplied by Toshiba.

JAEA attempted to remove the relay device so that it could ascertain the damage caused by the impact of the fall, but an alarm went off indicating excess load. JAEA used the maximum force allowed, but it was unable to remove the device and abandoned the attempt on October 13.

The relay device is made up of tubes connected by eight pins. It appears that the problem is related to this structure.

JAEA inserted a small camera to investigate the problem. It announced on November 9 that its investigation had revealed that a gap in a section connecting the tubes had expanded by between 7.5mm and 9.5mm. (The gap was originally between 5mm and 7mm, but after the accident it was 14.5mm.) This suggests that as a result of the impact of the fall the connecting section was deformed in some way, or a pin was ejected, or a tube was distorted. It is most probable that this is the reason why the device cannot be removed.

JAEA says that it will continue to consider how to conduct observations of the outer surface of the device and that it will continue to assess in a comprehensive manner how to remove the device. However, the camera looks through an aperture from quite a distance from the relay device and the environment of argon gas and sodium vapor

makes it difficult to obtain clear results from such observations.

Apparently JAEA is considering using heat to expand the opening through which the relay device is extracted, or using more force, but in either case there is a high possibility that the device will be damaged in the process. At this stage no foolproof method has been identified. As a last resort, it could be necessary to remove the whole device from the vessel head. However, in that case it will be necessary to prevent air from mixing with the sodium in the reactor. This will require designing and constructing a large new piece of equipment into which the 12-meter relay device and the equipment connecting it to the vessel head can all fit. Air coming into contact with the sodium, which is heated to above 200°C, would cause a fire or explosion. In any case, *Continued on page 12*

Continued from page 3 Fukushima, a METI official admitted that none of the key details had been decided, including price or plant type, and that the whole deal could collapse if future negotiations do not yield agreement.

JINED, which includes Japan's major plant makers and electric power companies, is the central point of contact. Nevertheless, the companies remain rivals. The Yomiuri Shimbun (November 1 Japanese edition, November 2 English edition) noted, "Profits reeled in by individual firms ... likely will differ greatly depending on the terms of contracts Vietnam will propose hereafter." Nikkei Shimbun (November 1) expressed concerns, saying, "From a cost-benefit perspective it is doubtful whether adequate results will be achieved" and "participation in [plant] operation provides an opportunity to expand business overseas, but if there is an accident this could develop into a situation which shakes [the company's] finances."

So, while Japan may have taken a significant first step in dividing up the spoils of what remains of the alleged nuclear renaissance, there is still a long way to go before this deal is done.

Baku Nishio and Philip White

KK-5 Headed Towards Restart

Hamaoka-5 Confronted by the Difficult Problem of Ground Structure

On October 28 Niigata Prefecture's technical committee, in its third meeting for the year, concluded that it was safe to restart Tokyo Electric Power Company's (TEPCO) Kashiwazaki-Kariwa No. 5 Reactor (KK-5, BWR, 1100MW). If it is restarted, it will be the fourth KK reactor to restart since the Chuetsu-oki Earthquake of July 16, 2007. Besides Unit 5, Units 2, 3 and 4 also have not yet been restarted.

The meeting was scheduled to run for two and a half hours, but it went one and a quarter hours over time. Nevertheless, the only discussion of substance related to whether or not the work to strengthen the seismic resistance of the containment vessel was sufficient to ensure safety. Committee member Motoe Suzuki suggested that it might in fact increase the danger. A report summarizing the main points for discussion was produced by the technical committee's subcommittee dealing with equipment integrity and seismic safety. The subcommittee's report went through nine drafts and involved considerable discussion, but it would be fair to say that the members of the technical committee proffered no opinions on the issues raised in the subcommittee's report. The Chair asked, "In that case may we conclude that there are no safety problems?" His question was greeted with silent consent and the committee moved on to the next item on the agenda. It was truly a weird meeting.

The meeting was punctuated by frequent booing from the concerned residents who observed the proceedings. For this meeting, for the first time residents of Niigata Prefecture submitted 73 questions in advance. Even though the discussion proceeded along the lines of the residents' questions, in the end no clarity emerged on the issues that concerned them, including in relation to penetrating cracks in four places in the reinforced concrete walls of Unit 5, displacement of movement indicators of spring hangers and constant hangers (suggesting possible residual strain - see NIT 138), and rushed seismic reinforcement of the containment building.

The Governor said that he will reserve comment about the technical committee's discussions until after hearing an accurate report. However, the local

people are very worried about the situation.

Ground structure: shared problems at KK and Hamaoka

There has been a lot of debate about the seismic movement experienced by the KK Nuclear Power Plant and why it so greatly exceeded predictions. Was the design inadequate, or was there some unknown cause? Similar debates are in progress in regard to Chubu Electric Power Company's Hamaoka-5 Nuclear Power Plant, but the reason for the huge seismic movement resulting from the Suruga Bay Earthquake on August 11, 2009 still has not been clarified (see NIT 132). For both KK and Hamaoka, it appears that the problem relates to the structure of the ground on which the plants are standing and that the problem is of a type not previously encountered at Japan's nuclear power plants.

The Suruga Bay Earthquake was a magnitude 6.5 earthquake (M_j = Japanese scale). Both Units 4 and 5 shut down automatically, but the seismic movement experienced by Unit 5 was extraordinarily strong. At the time, Unit 3 was closed for periodic inspection and Units 1 and 2 were already permanently shut down.

The recorded data showed that the seismic response spectrum for Unit 5 in the 0.3 second to 0.5 second period range was two to three times as great as for Units 3 and 4. Unit 4 is right next to Unit 5. The two plants are only separated by a distance of about 400 meters.

KK was struck by a medium size (M_j6.8) earthquake. The huge seismic movement experienced by the plant was not due to the energy released at the earthquake's seismic center alone. There is an ancient folded stratum at a depth of a few kilometers and beneath that is irregular ground. Although it has not been proved, the theory is that these acted as a lens to concentrate the seismic waves on the nuclear power plant.

In the case of Hamaoka, the amplified seismic movement of Unit 5 at first puzzled researchers. They thought that perhaps there was some totally unknown factor involved, or that something had been missed. They wondered whether there might be a peculiar ground structure in the vicinity of the reactor site at a depth of less than a few hundred

Ryusuke Umeda's Worker's Compensation Claim Rejected

without any investigation of the conditions at Tsuruga-1, site of most of Umeda's exposure

Thirty years ago Ryusuke Umeda, who currently lives in Fukuoka City, was exposed to radiation while working on periodic inspections of the Shimane-1 and Tsuruga-1 nuclear power plants. In September 2008 he applied for workers' compensation for myocardial infarction (see NIT 135). The Shimane Labour Standard Supervision Office called him to request that he come to the Fukuoka Labour Bureau on September 14 this year. There he was informed that his claim had been rejected.

The reasons given for the decision were that it could not be said that Umeda's myocardial infarction was caused by his exposure to radiation while working at nuclear power plants and that his condition was a lifestyle-related illness. Umeda said that he did not accept the decision and has lodged a request to the Shimane Labour Bureau (in charge of the Labour Standard Supervision Office) for a review.

On February 8 Umeda informed the Ministry of Health, Labour and Welfare (MHLW) of welding repair work that he carried out on lead plates in the vicinity of the core of the Tsuruga-1 Nuclear Power Plant. It was difficult to breathe while wearing a full-face mask working in humid 40°C conditions. Welding and cutting pipes with a gas cutter made his mask fog up immediately, so he was forced to remove it. Frequently the alarm on his dosimeter would sound as soon as he entered the work area, indicating that his radiation dose had already exceeded 1 milli-sievert. Sometimes he would remove the dosimeter in order to finish the job during the allotted time of the periodic inspection.

Without even investigating Umeda's claim, MHLW drew the conclusion, "No accident-type exposure is recognized."

Worker exposure reached a peak from the late 1970s into the 1980s when Umeda was working in nuclear power plants. Working conditions were very severe in those days. Even if the work carried out during periodic inspections was not "accident-type", it still entailed high radiation doses. Under

those conditions, naturally people like Umeda working near the reactor core were exposed to high levels of radiation. Without even carrying out investigations, how can MHLW categorically say that there was no unmonitored radiation exposure?!

The supporters' group intends to pursue negotiations with the government over this and other unclear issues.

The Japanese Government is teaming up with industry in an effort to export nuclear power plants. People in countries interested in buying Japanese-built nuclear power plants should know about the sloppy management of data concerning radiation exposure at nuclear power plants in Japan and the lack of proper compensation for workers exposed to radiation. In particular, they should be aware of the special problems facing subcontractor workers, who incur 96% of all radiation exposure at nuclear power plants in Japan. These people are subjected to poor working conditions in the first place and, even if they suffer damage to their health, for all sorts of reasons there is no guarantee that they will be compensated.

The fact that radiation-related illnesses generally manifest many years after the exposure was incurred makes it especially difficult for subcontractor workers, some of whom were never even given a copy of their radiation control handbook. In some cases, by the time they fell ill the company they worked for had gone out of business. The problems experienced by workers at Japan's nuclear power plants clearly demonstrate that it is no good rushing to build nuclear power plants when issues of working conditions and workers' compensation have not been solved.

Mikiko Watanabe (CNIC)

Japanese Inventory of Separated Plutonium at 31 December 2009

Held in Japan (Quantities shown are kgPu. Amounts shown in brackets are for the end of 2008.)

Reprocessing Facilities	JAEA (Tokai)	JNFL (Rokkasho)	Total
Plutonium nitrate etc. (after dissolution up to, but not including, storage in containers as mixed oxide)	673 (674)	279 (276)	952 (950)
Plutonium oxide (stored in containers as mixed oxide)	103 (106)	3,329 (3,329)	3,432 (3,435)
Total Plutonium	777 (780)	3,607 (3,604)	4,384 (4,384)
Total Fissile Plutonium	517 (520)	2,346 (2,344)	2,863 (2,864)

JAEA Plutonium Fuel Fabrication Plant	
Plutonium oxide (stored plutonium in plutonium oxide containers)	2,304 (2,495)
Plutonium in test or fabrication stage	1,008 (1,047)
New fuel etc. (stored as finished fuel assemblies etc.)	171 (78)
Total Plutonium	3,483 (3,620)
Total Fissile Plutonium	2,420 (2,515)

Nuclear Reactors and Other Facilities	Commercial Reactors				R&D facilities
	Joyo	Monju	Fugen	Commercial Reactors	
Unirradiated new fuel at reactor sites etc.	134 (134)	161 (699)	0 (0)	1,458 (415)	443 (444)
Total Plutonium	2,196 (1,692)				
Total Fissile Plutonium	1,589 (1,247)				
Total Plutonium	10,063 (9,696)				
Total Fissile Plutonium	6,871 (6,625)				

Held Overseas (Quantities shown are kgPu. Amounts shown in brackets are for the end of 2008.)

(To be fabricated into MOX fuel overseas and used in Japan's light water reactors.)

Recovered in UK	11,531 (11,380)
Recovered in France	12,599 (13,832)
Total	24,130 (25,212)

NB: Figures only available for fissile plutonium held overseas.

Separated Plutonium in Use from January-December 2009

(Quantities shown are kgPu. Amounts shown in brackets are for the end of 2008.)

Reprocessing Plant	JAEA (Tokai)	JNFL (Rokkasho)	Total
Plutonium oxide recovered	0 (0)	0 (1,582)	0 (1,583)
Plutonium in fuel fabrication processes (Monju, Joyo, Fugen, etc.)			191 (284)
Plutonium loaded in nuclear reactors			1,345 (0)

2009 Balance of Separated Plutonium Held in Japan

Total (kgPu)

Plutonium separated at reprocessing facilities	0
Plutonium loaded into nuclear reactors	- 1,345
Variation in processes at each facility	- 8
Total imported into nuclear reactors and other facilities	1,720
Balance	367

JAEA Reprocessing Facility (Tokai) (from separation & purification process to storage of raw materials)		
Items		Increase/Decrease
Inventory as of 1 January 2009 (the end of 2008)		780
Total amount of plutonium separated in 2009		0
Total amount of plutonium shipped out in 2009		0
Variation in processes at reprocessing facilities		- 3
Detailed breakdown	Transfer to retained waste	- 0.2
	Retransfer from retained waste	0.0
	Nuclear loss	- 2.5
	Measured discard	0.0
	Material unaccounted for (MUF)	- 0.4
Inventory as of 31 December 2009		777

JAEA Plutonium Fabrication Facility (from mixed oxide powder (MOX) raw material to fuel assembly products)		
Items		Increase/Decrease
Inventory as of 1 January 2009 (the end of 2008)		3,620
Total amount of plutonium received in 2009		1
Total amount of plutonium shipped out in 2009		- 130
Variation in processes at fuel fabrication facilities		- 8
Detailed breakdown	Shipper/receiver difference	0.0
	Transfer to retained waste	0.0
	Retransfer from retained waste	0.1
	Nuclear loss	- 7.1
	Material unaccounted for (MUF)	- 0.7
Inventory as of 31 December 2009		3,483

Nuclear Reactors and other Facilities (Joyo, Fugen, Monju, Commercial Reactors, R&D Facilities)		
Items		Increase/Decrease
Inventory as of 1 January 2009 (the end of 2008)		1,692
Total amount of plutonium received in 2009 (including for pluthermal)		1,851
Total amount of plutonium loaded in nuclear reactors during 2009		- 1,345
Total amount of plutonium shipped out in 2009		- 1
Inventory as of 31 December 2009		2,196

JNFL Reprocessing Facility (Rokkasho) (from separation & purification process to storage of raw materials)		
Items	Increase/Decrease	
Inventory as of 1 January 2009 (the end of 2008)	3,604	
Total amount of plutonium separated in 2009	0	
Total amount of plutonium shipped out in 2009	0	
Variation in processes at reprocessing facility	3	
Detailed breakdown	Transfer to retained waste	0.0
	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 2009	3,607	

Japan's inventory of separated plutonium at the end of 2009 was published on September 7, 2010 by the Japan Atomic Energy Commission. The end of year inventory has been published for each year since 1993. A shipment from France of 1,508 kgHM of plutonium oxide arrived in Japan in January 1993. The shipment caused an international uproar. Japan responded by publishing its plutonium inventory in an attempt to increase transparency. The figures published were for "total plutonium", but since 2006 the figures for Japanese plutonium held in France and the UK have only been published for "fissile plutonium", making precise calculation of Japan's total plutonium holdings difficult.

Japan's pluthermal program (using MOX fuel) began in 2009, ten years later than planned. Plutonium shipped and loaded into reactors is reflected in the figures in these tables. The 1,458 tons of plutonium held as "Unirradiated new fuel at reactor sites etc." includes 210 kg at Fukushima I-3 (TEPCO), 205 kg at Kashiwazaki-Kariwa-3 (TEPCO), 213 kg at Hamaoka-4 (Chubu) and 831 kg at Ikata-3 (Shikoku). (The figures don't add up due to rounding.) The plutonium held at Tokyo Electric Power Company's (TEPCO) reactors was shipped there in MOX fuel over ten years ago. The plutonium held at Chubu Electric's and Shikoku Electric's reactors arrived in MOX fuel from France in May 2009. MOX fuel for Kyushu Electric's Genkai-3 plant (677 kg) also arrived in May 2009, but it was loaded in the same year, so it is included in "Plutonium loaded in nuclear reactors" under "Separated Plutonium in Use". The remaining 669 kg of the total 1,345 kg plutonium loaded in nuclear reactors was loaded in Monju last year. (Monju started up in May this year.)

Shipment of MOX fuel from France is the reason for the reduction in the figure for plutonium "Recovered in France". Note that it is not possible to reconcile the figures precisely, because only "fissile plutonium" is shown for plutonium held overseas. The increase in plutonium "Recovered in the UK" is due to the allocation of plutonium from reprocessed spent fuel.

Hideyuki Ban (CNIC Co-Director)

Continued from page 5 meters. Like KK, there is a folded stratum beneath the plant, but judging from the speed at which the seismic waves were transmitted that was not thought to be the main cause. However, as a result of boring and ground surveys, it was discovered that 300 to 500 meters below Hamaoka-5 was a "slow formation" where the S-wave velocity was about 700 meters per second, around 30 percent slower than the surrounding bedrock.

The government's investigation committee is now debating the size and shape of this shallow slow formation. A clear and consistent explanation of the amplification characteristics of the seismic movement is not yet available and there is no immediate prospect of restarting Hamaoka-5.

One thing is clear, namely that pre-existing knowledge was insufficient to explain the seismic response spectrums of earthquakes that have struck Japan's nuclear power plants in recent years. The nuclear industry is now confronted with the difficult problem of ground structure.

Yukio Yamaguchi (CNIC Co-Director)

Anti-Nuke Who's Who

Kihohiko Yamada: Opposing the Nuclear Fuel Cycle as a Politician and Citizen

interviewed by Philip White*

Kiyohiko Yamada was born and bred in Misawa City in eastern Aomori Prefecture. Misawa is home to a large US air base and is also the entry point to the Shimokita Peninsula, on which are located the nuclear fuel cycle facilities around Rokkasho Village and the sites of an existing nuclear power plant in Higashidori Village and a planned nuclear power plant in Ohma Town.

Yamada became involved in the campaign against Japan's nuclear fuel cycle policy when he attended a workshop in 1987. His opposition to the Rokkasho Reprocessing Plant eventually led him to stand as a candidate for the Social Democratic Party for a seat on the Misawa City Local Assembly. He was elected in 2004 and served on the Assembly from May 2004 to March 2008.

Because Misawa City borders Rokkasho Village, Misawa has signed a safety agreement with Japan Nuclear Fuel Ltd, owner and operator of the nuclear fuel cycle facilities, including the Rokkasho Reprocessing Plant. This gives Misawa City a say in relation to the safety of these facilities. Yamada hoped that by serving on the municipal assembly he would be able to use the leverage of the safety agreement to influence the debate about the nuclear fuel cycle facilities. However, there were few other assembly members who opposed the facilities and the local government toed the line of official central government policy. Yamada was disappointed that he wasn't able to use his platform as an assembly member to put a brake on the construction of the Rokkasho Reprocessing Plant.

But he is not a man to give up easily. Since finishing his term as an assembly member, he has continued to play an active role in the grass roots campaign against the nuclear fuel cycle.

Through his long experience campaigning against Japan's nuclear energy policy he has learnt the great importance of standing up to the government, in particular in the courts, in order to expose the government's mistakes. The government's nuclear policy is clearly mistaken and he is determined to do whatever he can to correct it. He has dedicated himself to this task as office manager of the "10,000 Plaintiffs Against the Nuclear Fuel Cycle" group.



A particularly meaningful action that he was involved in was releasing post cards into the sea near the effluent pipe from the Rokkasho Reprocessing Plant. Radioactive waste is released from the pipe into the Pacific Ocean. By tracing where the ocean currents carried the post cards, it was possible to construct a concrete, easy to communicate picture of where the radioactive waste resulting from reprocessing would end up (refer NIT 108). Citizens tried a similar experiment to estimate the dispersion of radioactive gas from the exhaust stack. They released balloons, but unfortunately were unable to trace them after they were blown by the wind in the direction of the Tsugaru Strait.

The commencement of commercial operations at the Rokkasho Reprocessing Plant has been delayed by a further two years (see NIT 138). Yamada hopes to use this time to explain to the public in simple terms the impact of the radioactivity released as a result of reprocessing and to increase the number of people opposed to the plant. His immediate aim is to have the plant shut down permanently, but his vision goes far beyond that.

The plant has already been contaminated as a result of active testing, which started in 2006. Even if the plant is shut down now it will take decades to clean up. Yamada is already focusing on the need to put in place a system for the protection of workers and the public during what will inevitably be a difficult and protracted decommissioning process.

*Philip White is the editor of Nuke Info Tokyo.

NEWS WATCH

Construction of Rokkasho MOX Factory Commences

On October 28, Japan Nuclear Fuel Limited (JNFL) commenced construction of its J-MOX factory, the country's first commercial MOX fuel fabrication factory, in Rokkasho village of Aomori prefecture. The factory will have a maximum fuel fabricating capacity of 130t-HM per year. Construction is scheduled to be completed in March 2016.

Application for Second HLW Shipment from the UK

On October 13, Japan Nuclear Fuel Co., Ltd. (JNFL) and Nuclear Fuel Transport Co., Ltd (NFT) submitted an application to the Japan Nuclear Energy Safety Organization (JNES) for confirmation of the material to be transported in the second HLW shipment from the UK. A total of 76 vitrified waste containers belonging to Kansai, Shikoku and Kyushu electric power companies are scheduled to be shipped in the latter half of 2011 to JNFL's Vitrified Waste Storage Center in Rokkasho Village, Aomori Prefecture.

Japanese consortium to do feasibility study for Kazakhstan nuclear power plant

On September 29, a consortium of Toshiba, Japan Atomic Power Co. and Marubeni Utility Services Ltd. (a subsidiary of Marubeni Corp.) signed a memorandum of understanding with Kazakhstan's National Nuclear Center to do a feasibility study on building a nuclear power plant in Kazakhstan. Kazakhstan's specification is for a 600MW~1000MW advanced boiling water reactor. According to the consortium, Kazakhstan initiated contact with Japan about doing a preliminary study and is not in talks with other countries on this issue.

The study will receive 70 million yen (\$837,000) in funds from the Japanese government under programs commissioned by the Ministry of Economy, Trade and Industry in Tokyo.

Bid for Kazakhstan's Planned HTR

A consortium including Japan Atomic Energy Agency (JAEA), Toshiba, Marubeni, Fuji Electric, and Kawasaki Heavy Industries, Ltd hopes to submit a bid for a feasibility study for Kazakhstan's planned High Temperature Reactor (HTR). Their sales pitch is based on the High Temperature Test Reactor (HTTR, 30MWt) developed by JAEA.

The date for international bids has not yet been determined, but it is said that the aim is to complete the feasibility study by 2012. If the business is judged to be viable the aim would be to complete the design by 2016, construct an HTR with a thermal output of 50MW in the city of Kurchatov, start test operations by 2020 and use the reactor to supply electricity and district heating.

Public-private partnership to promote nuclear exports launched

On October 22 the International Nuclear Energy Development of Japan Co., Ltd. (JINED) was launched to engage "in activities leading to the creation of proposals to support nuclear power plant projects in the emerging countries." JINED is jointly owned by the nine Japanese electric power companies which operate nuclear power plants, Japan's three nuclear power plant makers (Hitachi, Mitsubishi and Toshiba), and government majority-owned investment company Innovation Network Corporation of Japan (INCJ). (INCJ was launched in July 2009 as "a unique public-private partnership aimed at promoting innovation and enhancing the value of businesses in Japan.") JINED's President is Ichiro Takekuro, Fellow of The Tokyo Electric Power Company Co., Inc.

JINED has already taken on the role as the central point of contact for negotiations with Vietnam in Japan's efforts to construct nuclear power plants in that country (see page 3).

Welds in pumps and valves never inspected

It has been discovered that inspections of welds required under the Electricity Business Act were not carried out during the equipment's

service life at numerous nuclear power plants. The revelations began on July 21 with Japan Atomic Power Company's (JAPCO) Tsuruga-1 Nuclear Power Plant (BWR, 357MW). Major replacement of pipes in the recirculation system of Tsuruga-1 is planned during a periodic inspection beginning in January next year. It appeared from diagrams and documents provided by the US plant maker that there were welds that JAPCO was not aware of and that therefore had never been checked since the plant began operating. Further investigations confirmed this to be the case.

When checks were carried out at other plants, numerous welds that had never been inspected were discovered. As of November 11, unchecked welds had been identified in 45 pumps and valves in 14 BWR plants (including Tsuruga-1) and in 18 pumps and valves in 6 PWR plants. These figures refer to the number of items of equipment. The number of unchecked welds has not been announced, but one would expect it to be a considerably higher figure.

One can only gasp in amazement at the slipshod nature of an inspection system that fails to check welds in such important equipment as recirculation pumps, pumps in the high-pressure core spray system, the reactor core isolation cooling system and the residual heat removal system and main steam isolation valves.

Valve maker falsifies materials experiment records

On October 12 the Nuclear Industrial and Safety Agency (NISA) announced that Osaka-based Sudo Valves had falsified materials experiment records for valves in pressurized water reactors. The company had been supplying valves, including for transformer insulation oil cooling pumps, to 26 reactors operated by five electric power companies since 1997.

The company was required to test samples for chemical composition, strength, etc. after a certain quantity of valves had been produced. However, it did not produce the samples and falsified the

experimental record to give the impression that the required standards were met.

On the same day NISA ordered companies operating boiling water reactors and nuclear fuel cycle facilities to check if Sudo Valves' products had been procured via other equipment makers. It is said that checks of the valves in question indicate that they did in fact meet the required standards, but the electric power companies intend to replace all 2,411 of the valves that have been identified.

This case of data falsification was exposed as a result of an internal leak to NISA in June.

Lawsuit for the termination of construction and operation of Shika 2 rejected

On October 28 the Supreme Court rejected a lawsuit lodged by local residents in 1999 for the termination of construction and operation Hokuriku Electric Power Company's Shika 2 Nuclear Power Plant (ABWR, 1358MW).

In March 2006 the Kanazawa District Court accepted that there were problems with the seismic safety of the plant and that the danger existed that the plaintiffs would receive an unacceptably high radiation dose in the case of an accident (NIT 112). However, in March 2009 the Kanazawa Branch of the Nagoya High Court reversed this decision (NIT 129). The plaintiffs appeal to the Supreme Court has now been rejected.

Continued from page 4 there is no doubt that resolving the problem will take a long time.

Monju was restarted in May after being shut down for fourteen and a half years. So far it has completed core confirmation tests at zero power. It is supposed to proceed to tests at 40 percent power and, after the results of those tests have been assessed, to increase to 100 percent power. However, the tests have stumbled at the first hurdle and there is no indication when the reactor will be able to restart.

Hideyuki Ban (CNIC Co-Director)

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 web site: <http://cnic.jp/english/>

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