

# NUKE INFO TOKYO

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Citizens' Nuclear Information Center

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## Certification of Sufferers of A-Bomb Disease victorious lawsuits force government to review criteria



*Victory! 18 in a row! Supporters outside the Tokyo High Court*

### 1. Victories in Court

On May 28, 2009, in the 18th consecutive victory for the hibakusha (atomic bomb survivors), the Tokyo High Court recognized nine more plaintiffs as sufferers of atomic bomb-related diseases (hereafter referred to as "a-bomb disease sufferers"). Since spring 2003, group lawsuits have been filed by 306 hibakusha with 17 district courts around the country. The plaintiffs are seeking the revocation of decisions rejecting their applications for recognition as a-bomb disease sufferers. As at the end of June, there were still 21 outstanding cases before district courts, high courts, or the Supreme Court.

On June 9 the government announced that it would not appeal the Tokyo High Court's verdict. Later it said that it aims to resolve the outstanding court cases by August this year, in time for the 64th anniversary of the 1945 atomic bombings. It is also conducting a review of the criteria by which a-bomb disease sufferers are certified.

The atomic bombs flattened the cities of Hiroshima and Nagasaki on August 6 and 9

respectively, killing 140,000 people in Hiroshima and 70,000 people in Nagasaki by the end of 1945. But the suffering of the survivors did not end there. To this day they continue to suffer from all kinds of radiation-related diseases. However, for a range of reasons, the government has been very reluctant to acknowledge this reality. Its position has been that atomic bomb-related diseases afflict only a small fraction of the survivors. Before the guidelines were revised in April 2008, it had recognized only 2,200 of over 250,000 card-carrying hibakusha as a-bomb disease sufferers.

The hibakusha launched their group lawsuits because they wanted to expose the true extent of the terrible effects of the atomic bombs before they died. They also wanted to force the government to drastically overhaul its certification system by replacing the "probability-of-causation" formula, which had been mechanically applied regardless of the circumstances, with new criteria that reflect the true extent of their radiation exposure and suffering. They also saw their lawsuits as a first step towards changing the government's nuclear-dependent security policy, which is facilitated by its deliberate under-estimation of the health effects of the atomic bombings.

### 2. Certification system

#### 2.1 Two classes of hibakusha

Certification of hibakusha falls into two categories: 1) people who are recognized as

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hibakusha, and 2) hibakusha who are also recognized as a-bomb disease sufferers. According to the latest official figures, there are now just over 240,000 surviving hibakusha recognized under the first category. Since the new certification system was introduced in April 2008, the number of hibakusha in the second category has risen dramatically, but there are still only about 5,000 people certified as a-bomb disease sufferers.

### *2.2 Certification as a hibakusha*

The system for certifying people as hibakusha first came into effect in 1957, the year after the Japan Confederation of A- and H-Bomb Sufferers Organizations (Hidankyo) was founded. Local governments issue health certificates to hibakusha based on criteria laid down by the national government. Medical expenses above the amount covered by the national insurance system are covered by the government and certain additional medical allowances are also available.

Hibakusha health certificates may be awarded to people in one of the following categories:

- 1) people who were in designated areas in the vicinity of ground zero at the time of the explosions;
- 2) people who entered within 2 kilometers within two weeks of the blast;
- 3) other people who were recognized as having been affected by radiation (eg people who helped the sick and wounded and people in the path of the radioactive fallout);
- 4) people in one of the above criteria who were in utero at the time.

The question of whether or not these categories are comprehensive enough is debatable, but in practice the system did not capture all the hibakusha. Factors such as fear of discrimination meant that many hibakusha were reluctant to register at first and those who applied later often found it difficult to prove that they fulfilled the criteria. Hence the total number of people exposed to radiation from the atomic bombs will never be known.

### *2.3 Certification as an a-bomb disease sufferer*

The system for certifying a-bomb disease sufferers was first established in 1957, at the same time as the system for certifying hibakusha. The Ministry of Health, Labor and Welfare decides whether applicants should be recognized as a-bomb disease sufferers on the basis of opinions of an expert subcommittee of the ministry's certification panel. In addition to the benefits available to

holders of hibakusha health certificates, people recognized as a-bomb disease sufferers are entitled to a monthly health allowance of 137,000 yen.

Certification as an a-bomb disease sufferer is restricted to holders of hibakusha health certificates who suffer from a limited number of recognized radiation-related conditions. Under the initial criteria, besides suffering from a recognized disease, applicants also had to have been exposed within 2 kilometers of ground zero. However, as time went by, the government became stricter in its application of the criteria, specifying shorter distances from ground zero depending on the disease.

In July 2000 the Supreme Court accepted Hideko Matsuya's claim for recognition as an a-bomb disease sufferer. It was hoped that the Ministry of Health, Labor and Welfare would relax its criteria, but if anything the ministry became even more stingy. Under revised guidelines issued in May 2001 the ministry proceeded to rigidly apply its "probability-of-causation" formula. This formula was based on analysis of radiation data collected from US nuclear tests and epidemiological studies of the hibakusha. It relates inferred radiation dose to specific diseases.

The group lawsuits begun in spring 2003 were launched because hibakusha realized they would get no satisfaction from the government unless they challenged it in the courts. After numerous victories, they finally forced the government to amend the guidelines. The new guidelines came into effect in April 2008.

### *2.4 Failure to consider the hibakusha's true circumstances*

As time elapsed after the original exposure and acute symptoms subsided, hibakusha found that they continued to suffer from vague symptoms such as fatigue, headache, a susceptibility to catch colds, and so on. These came to be collectively referred to as "bura-bura disease". They reflected some kind of physical change caused by exposure to radiation from the atomic bombs. The government's certification system failed to take these conditions into account.

Besides failing to recognize the true nature of the health problems faced by the hibakusha, the government also assessed their radiation exposure in a very restrictive fashion. The government's "probability-of-causation" formula focused on direct radiation exposure from the explosion itself. The Ministry of Health, Labor and Welfare

deliberately underestimated residual radiation and internal radiation exposure, even though it was well known that people continued to be exposed to radioactive fallout and induced radioactivity long after the atomic bombs exploded. People who entered the cities after the explosion suffered from symptoms of acute radiation, so it should have been obvious that they would also develop chronic symptoms.

Objecting to the government's narrow interpretation, the plaintiffs asserted that physical changes caused by their exposure to radiation were the underlying cause of a whole range of a-bomb diseases. Successive court verdicts accepted the plaintiffs' arguments. The courts criticized the government's application of its "probability-of-causation" formula as too mechanical and placed importance on a comprehensive assessment of each hibakusha's circumstances and health condition.

### 2.5 New standards

After a series of court decisions went against the government, former Prime Minister Shinzo Abe met with hibakusha on August 5, 2007, the day before the Hiroshima Day anniversary. He agreed that the criteria for recognizing a-bomb disease sufferers should be reviewed. As a result of this review, the criteria were changed and new standards came into effect in April 2008.

Under the new standards the government recognizes certified hibakusha with any of the following five medical conditions as a-bomb disease sufferers: malignant tumors, leukemia, hyperparathyroidism, cataracts, and myocardial infarction. The latter two are only recognized where it is accepted that they were caused by radiation.

The radiation exposure criteria were also relaxed as follows:

- 1) people who were exposed within a radius of 3.5 kilometers from ground zero at the time of the bombing;
- 2) people who entered within 2 kilometers of ground zero within 100 hours of the bombing;
- 3) people who spent a week or more within 2 kilometers of ground zero between 100 hours and 2 weeks after the bombing.

Where it is assessed that under the old formula the "probability-of-causation" is 10% or more, it is no longer necessary to refer the case for review by the expert subcommittee. For other cases, where the person is suffering from one of the recognized conditions and the circumstances of their radiation

exposure meet the above criteria, the expert subcommittee reviews the case. People who do not meet the above criteria can seek certification based on a comprehensive assessment of their individual circumstances and conditions.

### 2.6 Limitations of new standards

The new standards are a great improvement on the old standards. Under the eased criteria, 2,969 people were certified in the 2008 fiscal year, about 23 times more than the 128 people recognized in the 2007 fiscal year. However problems remain.

In the first place, the list of recognized diseases is still too restrictive. The courts have recognized additional non-cancer conditions. In and after March 2009, a ruling each by the Hiroshima and Kochi district courts and the Osaka High Court, and two rulings by the Tokyo High Court said that liver dysfunction and hypothyroidism should be regarded as certifiable conditions. The courts have also recognized cancers for people who were exposed at greater distances from ground zero and who entered the contaminated areas later.

Under great pressure from the court decisions, the government is expected to expand the list of recognized conditions as an outcome of the current review. On June 22, 2009 a panel of experts under the Ministry of Health, Labor and Welfare said it would add liver dysfunction (chronic hepatitis and liver cirrhosis) and hypothyroidism to its list of recognized diseases. Unfortunately, the ministry's certification panel includes many members who still support the old "mechanical" formula. Even as they relax the criteria, they cast doubt on the scientific basis for doing so. They are also seem determined to retain the right to judge whether or not the condition was caused by radiation exposure.

### 2.7 Hibakusha demands

Hidankyo, the peak national body representing hibakusha, maintains that applications by hibakusha health certificate holders should be approved for all types of cancer. It takes the position that applications related to cataracts and myocardial infarction should be approved unless it can be proved that they were not caused by radiation. In general, the benefit of the doubt should be given to the hibakusha.

The best way around the current impasse would be for the government to amend the law and issue ordinances determining which diseases are recognized, so that all hibakusha who suffer from these conditions are certified automatically. This is what the plaintiffs and Hidankyo are calling for,

but it requires a political decision at the highest level.

### **3. What about the rest of the hibakusha?**

#### *3.1 Unprocessed applications*

Despite the victories in court, it must not be forgotten that the applications for recognition as a-bomb disease sufferers of about 7,800 hibakusha have not even been processed yet. Over three years have elapsed since some of these applications were lodged. Given the age of the applicants and the manifest unreasonableness of the government's certification system, there can be no excuse for further delays.

#### *3.2 Overseas hibakusha*

There have been several lawsuits by hibakusha living overseas who are demanding official recognition as hibakusha and associated benefits. In November 2007, in a landmark ruling, the Supreme Court declared that administrative guidance issued in 1974 by the then Ministry of Health and Welfare to local governments was illegal. The administrative guidance in question limited benefits to atomic-bomb survivors who were living in Japan and to visiting atomic-bomb survivors for the duration of their stay in Japan. Even after the Supreme Court ruling, overseas hibakusha were still inconvenienced by a requirement that they must visit Japan to apply for recognition, but a December 2008 revision of the law relaxed that condition, enabling survivors living abroad to apply without visiting Japan. Since then, hibakusha health certificates have been issued to people living overseas, including to people living in South Korea, Taiwan, the United States and Holland.

It is also possible for people living overseas to obtain recognition as a-bomb disease sufferers, but, in another example of bureaucratic bloody-mindedness, applicants for this class of certification still have to visit Japan to apply.

### **4. Personal courage and political support**

In order to achieve the successes that they have, the plaintiffs had to lay bare their private lives by declaring their medical histories and their suffering before the courts. But courage alone was not sufficient. They also had to win broad political support to counter strong resistance from the bureaucracy. Since launching their group lawsuits, they have succeeded in garnering support within all the major political parties, including the governing parties.

With so much political support, one might

wonder why it took so long and so many court victories for them to make substantial progress. The truth is that the hibakusha's struggle for recognition is an indictment of the stubbornness and inertia of Japanese government and bureaucracy. It also illustrates the penny-pinching callousness of the government and bureaucracy towards the needs of ordinary citizens. Considering the time it has taken for the government to show some flexibility in its certification system, it seems that the official attitude has been to wait for the hibakusha to die.

### **5. Certification of a-bomb disease sufferers and nuclear disarmament**

#### *5.1 Nuclear security and nuclear energy policies*

Through their struggle for recognition, many hibakusha have come to believe that one of the main reasons behind the Japanese government's stubborn resistance is its addiction to nuclear weapons. They believe the government wants to downplay the long-term effects of radiation from the atomic bombing of Hiroshima and Nagasaki, because if it acknowledged the true extent of their ongoing suffering the rationale for a security policy which relies on the US nuclear umbrella would collapse. Likewise, if the full health effects of radiation exposure were admitted, there would be strong resistance to the government's promotion of nuclear energy.

#### *5.2 Research compromised by military motives*

From the beginning, research into the radiological impact of the atomic bombs was compromised by military priorities. The US established the Atomic Bomb Casualty Commission (ABCC) in 1947 to carry out a long-term epidemiological and genetic study of the effect of the atomic bombs on the survivors. However, ABCC was established for military purposes. Its object was to investigate the killing power of the radiation from the original blast of the atomic bombs, not to consider the suffering of the victims. It concealed the residual radioactive contamination of Hiroshima and Nagasaki and made no effort to provide medical treatment for the survivors, treating them instead as research guinea pigs.

ABCC was replaced in 1975 by the Radiation Effects Research Foundation (RERF), which was jointly funded and managed by the US and Japan. Like ABCC, RERF focused on radiation exposure from the original blast. It drew statistical correlations between artificially derived



assessments of radiation dose and effects on individual organs, rather than looking at the impact on the total person.

The data collected by ABCC and RERF formed the basis of the infamous "probability-of-causation" formula and thus of the a-bomb disease sufferers certification system.<sup>1</sup> By exposing the defects of the research carried out by these two organizations, the group lawsuits challenge government policies which depend on denying or minimizing the long-term effects of radiation - specifically, the government's policy of relying on the US nuclear umbrella for security and its nuclear energy policy.

### 5.3 *The dream of the hibakusha for a nuclear-free world*

The consistent theme that runs through all the struggles of the hibakusha is their commitment to nuclear disarmament. Hibakusha recognize, as no one else can, the inhumanity of nuclear weapons and they are committed to ensuring that they are never used again. Even greater than the satisfaction they feel from being vindicated by the courts is the satisfaction they will feel when their struggle brings about the elimination of these evil weapons.

For them, achieving this goal is at least as urgent as getting their own health needs addressed.

Time is short on both counts. May the political wheels turn quickly to fulfill their dreams within their lifetimes.

Report compiled by *Citizens' Nuclear Information Center* and *Legal Counsel for Atomic Bomb Disease Group Lawsuit (Tokyo Group)*

#### **Note**

1. The data collected by ABCC and RERF also formed the basis of the International Commission on Radiological Protection's (ICRP) recommended radiation exposure standards for nuclear workers and the general public. ICRP's safety standards are based on assessments of the increase in radiation dose over the background dose. However, since RERF did not give due consideration to internal radiation exposure from residual and induced radiation, the assessment of background dose is artificially high. Therefore, the increase in radiation dose appears to be artificially small. This leads to underestimation of the risk associated with exposure to radiation.

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## **Multiple Myeloma and Malignant Lymphoma on Workers' Compo List**

**T**he Ministry of Health, Labour and Welfare (MHLW) has decided to add multiple myeloma and malignant lymphoma to its list of radiation-induced conditions eligible for workers' compensation.

The list of recognized radiation-related conditions was established by regulation in 1978 under the Labor Standards Act. This is the first time that new conditions have been added to the list, which includes leukemia, lung cancer, skin cancer, bone cancer and thyroid cancer.

In January 2004 Mitsuaki Nagao became the first nuclear industry worker to be awarded workers' compensation for multiple myeloma and in October 2008 Tadashi Kiyuna became the first such worker to be awarded workers' compensation for malignant lymphoma. In order to gain recognition it was necessary to set up support networks, to demonstrate the validity of their claims by submitting the latest research papers from Japan and abroad, and to engage in repeated negotiations with MHLW. In addition, MHLW

assembled a team of experts to consider numerous epidemiological studies. The whole process took many years.

Adding these diseases to the list of recognized conditions will make workers more aware of their eligibility for workers' compensation. Also, the Labor Standard Supervision Offices will see the conditions on the list when it assesses workers' compensation claims. Thus the barriers to acceptance of workers' compensation claims for these conditions will be reduced. This outcome was made possible thanks to the long battles fought by Nagao and Kiyuna.

In future, we hope to bring to light the suffering of the many workers who have diseases caused by exposure to radiation, but whose conditions have not been recognized. In doing so, we hope to contribute to the protection of worker health through reduction of radiation exposure.

Mikiko Watanabe (CNIC)

## Worker Radiation Exposure at Rokkasho Reprocessing Plant

Active testing of the Rokkasho Reprocessing Plant is on hold due to repeated problems with the vitrification facility. Completion of the tests was rescheduled for August this year, but that target is clearly unachievable. With Japan Nuclear Fuel Ltd. (JNFL) in no position to say when the tests will be completed, the future of the plant is becoming less and less clear and the electric power companies' plutonium utilization plans are falling further and further behind.

In January this year an accident occurred in which about 150 liters of high-level radioactive liquid waste leaked within a cell of the vitrification building (NIT 129, 130). Operations stopped completely and many other problems arose as a result of equipment that was corroded by evaporated liquid waste which contained nitric acid. For example, the cogs of a crane used to clean the cell would not work because of corrosion.

On June 6 a worker, who was in his thirties, was exposed to radiation while working to restore the vitrification facility. He was exposed to radiation when he entered the repair room within the cell to replace parts on a remotely controlled manipulator which was not working properly. While replacing the parts he put his left knee on a trolley that carried the manipulator. The measurement taken as he left the radiation control area showed a reading for cesium of 6 becquerel and a radiation dose of 0.4 milli-sieverts. According to JNFL, the cause of the radiation exposure was that the paper protective clothing and cloth work clothes that he was wearing became wet from his perspiration. This allowed the evaporated radioactive waste liquid to permeate through his clothing. JNFL said that in future it would require workers to wear clothes with impermeable knee patches and the like.

Large quantities of nitric acid and highly volatile radioactive iodine have evaporated and dispersed within the cell, so it is highly likely that numerous problems will continue to arise in equipment and machinery and that workers will be forced to carry out further work within the cell. There is, therefore, reason to be concerned that more radiation exposure incidents will occur and that the doses incurred by workers will increase. These workers are not JNFL's own employees.

They are employed by subcontractors.

On June 19, there was another case of worker radiation exposure, this time while carrying out work on the spent fuel storage pool. A man in his forties was inspecting the spent fuel pool crane. The radiation check after he took off his work clothes showed a reading for cobalt of about 5 becquerel on the big toe of his right foot. The radiation dose was calculated to be 0.3 milli-sieverts.

JNFL claimed that, since he was not directly involved in the work, it was highly likely that he stepped on the material in the change room with his bare foot. In other words, radioactivity that was on another worker's clothes fell to the floor in the change room. That means that this radioactivity was not detected by the radiation check before he entered the change room. It also suggests that radioactivity is scattered all over the place throughout the plant. Indeed, a similar incident occurred in August 2007.

These radiation exposure incidents clearly demonstrate the inadequacy of JNFL's radiation control system.

Masako Sawai (CNIC)



Cartoon by  
Shoji Takagi

## Major Incidents at Nuclear Facilities April 2008 - March 2009

Date	Facility Name	Incident Description
1 April 08*	Shika-2	Reactor shutdown manually due to elevated hydrogen concentration in the off-gas treatment system.
9 April 08	Tomari-2	Cracks found in welds in primary coolant inlet nozzle stubs of steam generators A & B.
18 April 08	Sendai-1	Broken main shaft of charging/high-pressure injection pump A.
12 May 08*	Shika-2	Elevated hydrogen concentration in the off-gas treatment system.
14 May 08	RRP	Exhaust fan stopped in the waste gas treatment system in the high-level liquid waste vitrification building.
25 May 08	Fuku. 1-5	Reactor shutdown manually due to deviation from the limiting condition for operation of the high-pressure core injection system and reactor core isolation cooling system.
26 May 08	Ohi-3	Cracks in the weld of the reactor vessel A-loop outlet nozzle stub.
27 June 08	KK-6	Failure of one control rod drive mechanism to couple with the corresponding control rod.
2 July 08	RRP	Molten glass stopped flowing through the nozzle at the bottom of vitrification furnace A in the high-level liquid waste vitrification building.
9 July 08	GNF Yokosuka	Uranium leaked from a press during the pellet production process in number 2 fabrication building.
18 July 08	Tomari-1	Failure of charging pump motor A during testing.
21 July 08	Tsuruga-2	Failure of a DC motor operated starting steam inlet valve for the turbine driven auxiliary feedwater pump.
23 July 08*	Onagawa-1	Crack in a weld in a recirculation pipe.
3 Aug. 08	Shimane-1	High pressure core injection turbine shut down during testing.
7 Aug. 08	Tokai-2	Valve disc fallen away from a check valve in the steam system exhaust line of the reactor core isolation cooling system turbine.
8 Aug. 08	GNF Yokosuka	Uranium spattered in the uranium recovery room of number 2 fabrication building.
19 Aug. 08*	Ohi-4	Leak from a fuel assembly.
4 Sep. 08	Tomari-1	Significant thinning of one heat exchange tube in steam generator A.
9 Sep. 08	Monju	Hole corroded in the exhaust duct in the roof of the reactor support building.
16 Sep. 08	Tsuruga-2	Reactor shutdown manually due to steam leak from a weld in the high pressure turbine.
22 Sep. 08	Takahama-4	Significant thinning of one heat exchange tube in steam generator C.
3 Oct. 08	Takahama-4	Cracks in welds in all primary coolant inlet nozzle stubs of the 3 steam generators.
5 Nov. 08	Hamaoka-5	Reactor shutdown manually due to rise in temperature in the noble gas holdup equipment of the off-gas treatment system. Hydrogen concentration rose to about 50%. It is suspected that a hydrogen explosion occurred.
7 Nov. 08	Fuku. II-3	During testing of control rod drive mechanism, 1 control rod that was not being tested inserted too far (beyond the fully inserted position).
13 Nov. 08*	Tomari-1	Cracks found in welds in primary coolant inlet nozzle stubs of steam generators A and B.
26 Nov. 08	Fuku. I-1	Water leaked from valves in the control rod drive hydraulic control unit.
10 Dec. 08	RRP	A stirring rod, which had been inserted into vitrification furnace A in the high-level liquid waste vitrification facility, was found to be bent and to have damaged the furnace.

11 Dec. 08	Tsuruga-1	Holes corroded in two places in ducts in the ventilation system of the central control room.
12 Dec. 08*	Sendai-2	Cracks in welds in primary coolant inlet nozzle stubs of steam generators A, B and C.
22 Dec. 08	Hamaoka-3	Emergency diesel generator A damaged during testing. Power decreasing operation became unavailable.
30 Dec. 08	Hamaoka-5	Reactor shutdown manually due to elevated hydrogen concentration in the off-gas treatment system.
25 Feb. 09	Fuku. I-1	During reactor startup, a drive bolt was broken in the turbine bypass valve. The valve was fully closed, so reactor pressure increased. Reactor power was decreased manually.
23 Mar. 09	Onagawa-1	One control rod that was not being operated accidentally inserted from the fully withdrawn to the fully inserted position.
26 Mar. 09	Shimane-1	During a half scram test during normal operation, 1 control rod accidentally inserted from the fully withdrawn to the fully inserted position.
26 Mar. 09	Fuku. I-3	During testing of control rod drive hydraulic system, 1 control rod inserted too far (beyond the fully inserted position).

\* Reporting not legally required. In all other cases listed reporting was required under the Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors

RRP = Rokkasho Reprocessing Plant; Fuku. = Fukushima; KK = Kashiwazaki-Kariwa; GNF = Global Nuclear Fuel - Japan Co., Ltd.

## KK Nuclear Power Station 2 Years After the Chuetsu-oki Earthquake

July 16 was the second anniversary of the Chuetsu-oki Earthquake. The seismic force that struck Tokyo Electric Power Company's (TEPCO) Kashiwazaki-Kariwa Nuclear Power Station (KK) was unprecedented in the history of nuclear power.

Start-up testing of KK-7 (ABWR, 1356 MW) began on May 8 (see NIT 130) and commercial operations were expected to begin at the end of July. However, on July 23 a leak of radioactive gas caused this schedule to be delayed. Elevated levels of radioactive xenon gas were recorded at the off gas monitor.

KK-6, which is the same type and size as KK-7, is in the final stage before start-up tests. Preparations to restart the other five reactors (all BWRs) are not so advanced. This article discusses the situation regarding all seven KK nuclear power plants.

In the process of bringing Unit 7 up to full power, 75 problems were identified. TEPCO has only published details of eight of these problems.

TEPCO's explanations were accepted by the Nuclear and Industrial Safety Agency (NISA) and Niigata Prefecture's technical review committee. The governor of Niigata Prefecture is expected to give his final judgment soon. These approvals are based on the premise that the problems identified do not represent a safety risk. However, since details of 67 of the problems have not been made public, citizens are not in a position to judge whether or not the plant is safe.

The Niigata Prefecture office responsible for nuclear safety boasted that its top priority was the safety and peace of mind of the citizens. However inconsistency has arisen between the approaches of the prefecture and the central government in regard to assessment of equipment integrity and seismic resistance as well as the process by which citizens' concerns are addressed. The central government requires that equipment integrity be assessed in accordance with the following process:

- 1) assessment of equipment one item at a time;
- 2) assessment at a system level;



3) assessment of the plant as a whole.

This process has been completed for KK-7 and an overall report was submitted on June 29.

Table 1 shows the state of progress of equipment integrity assessments as of July 8 for each of the seven KK plants (TEPCO report). Visual inspections, operational tests, functional tests and leak tests have all been completed for Units 6 and 7. The next most advanced is Unit 1. After the earthquake TEPCO said that it would inspect Units 1 and 7 in parallel, but as can be seen, that plan has gone by the board. Progress on Unit 4 is woeful, while Unit 2 is not even shown in this table. When the Chuetsu-oki Earthquake struck, Unit 2 was in the process of being started up, while Units 3, 4 and 7 were operating at full power. The other units were closed for inspections. In a note below the table TEPCO states that visual inspections of Unit 2's safety important equipment, including core internals and control rods, have been completed, but that it is not yet in a position to provide quantitative data.

As of the end of July, Unit 6 was on the verge of beginning start-up tests. NISA accepted TEPCO's assessment, including its seismic safety assessment, and at the end of June agreed that TEPCO could proceed to restart the plant. The subcommittee established by Niigata Prefecture to look into equipment integrity and earthquake resistance and safety accepted this at its 23rd meeting, held on July 9, but at its next meeting, held on the same day as the radioactive gas leak from KK-7, the subcommittee reviewed this decision. In the end, the original decision was confirmed, but it was agreed that the dissenting views of two subcommittee members would be recorded in the final report. The next step is for

Niigata Prefecture's technical review committee to give its approval. Finally, the governor must give his approval for the restart. Had there not been a radioactive leak, it was expected that he would have given his approval on July 24.

On July 14, citizens' groups held negotiations with the prefecture concerning approval of commercial operation of Unit 7. During the negotiations the prefecture was unable to answer several safety-related questions posed by "Niigata Citizens' Committee to Protect Our Lives and Home Towns from Nuclear Power". Besides these unresolved questions, serious questions were raised about the mode of operation of Niigata Prefecture's technical review committee.

During the negotiations the "Three Local Anti-Nuclear Groups" pointed out errors in TEPCO's report about the geology of the Kashiwazaki Plain. It is possible that TEPCO's assessment will be shown to be fundamentally flawed. Niigata Prefecture has been forced to review the issue. On July 24, it reconvened the subcommittee looking into the Chuetsu-oki Earthquake and ground condition.

At the earliest, KK-7 could begin commercial operations around August 10, but due to the leak of radioactive gas and the problems identified by the local anti-nuclear groups, the start of commercial operations could be delayed longer. In the meantime, KK-7 is continuing test operations at low power. It is not certain what impact this will have on the schedule for beginning test operations at Unit 6, but it has become more difficult for Niigata Prefecture to ignore the concerns of the local residents.

Yukio Yamaguchi (CNIC Co-Director)

**Table 1: Status of Kashiwazaki-Kariwa Nuclear Power Plant**

		Items of equipment checked / Total number of items to be checked Items of equipment shown in round numbers. (Progress shown as a percentage.)					
		Unit 1	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
Basic Equip- ment Checks	Visual Inspections	1,860/2,000 (93%)	1,230/1,540 (80%)	340/1,680 (20%)	1,430/1,950 (73%)	1,538/1,538 (100%)	1,362/1,362 (100%)
	Operational Tests	1,220/1,470 (83%)	850/1,100 (77%)	170/1,300 (13%)	800/1,490 (54%)	1,144/1,144 (100%)	1,001/1,001 (100%)
	Functional Tests	540/1,020 (53%)	250/700 (36%)	20/650 (3%)	270/820 (33%)	719/719 (100%)	616/616 (100%)

(From a document submitted by TEPCO to Niigata Prefecture's subcommittee considering equipment integrity and earthquake resistance and safety on July 8, 2009.)

## Group Introduction

### "Know Pluthermal" Shiribeshi Citizens' Network

By Yoshiko Kobayashi\*

I moved from Tokyo to a dairy farm 10 kilometers from the Tomari Nuclear Power Station in 2001. Tomari Village is in the Shiribeshi region of Western Hokkaido. Surrounded by beautiful mountains and the sea, it is an idyllic pastoral setting. I was concerned about the nuclear power plant, but I thought of it as a necessary evil to counter the problem of aging and dwindling rural populations.

But then one day I read the word "pluthermal"<sup>1</sup> in a newspaper article. It worried me, so I attended a public meeting, where the Hokkaido Electric Power Company explained the project, and the public debate that followed soon after. The more I looked into the issue, the more I realized that this "pluthermal" was a dreadful idea.

A fierce opposition campaign targeted the mayors of the four municipalities around the power plant, the governor of Hokkaido and Hokkaido Electric, but they all ignored the views of the local residents, saying that pluthermal was "national policy". The approval process has now reached the final stages and pluthermal is scheduled to be implemented within two years.

It was under these circumstances that like-minded people joined together to form the "*Know Pluthermal*" *Shiribeshi Citizens' Network*. The purpose of the network is to help people who are so used to the existing nuclear power station that they have given up hope of doing anything about it to understand what pluthermal is all about. Believing that knowledge is the beginning of wisdom, our campaign seeks to communicate through activities such as video screenings and public lectures. We have organizers in each region, who play a central role in organizing events in their region, in cooperation with the other organizers.

This year US President Obama declared America's commitment to seek a world without nuclear weapons. He also recently cancelled the domestic component of the Bush Administration's Global Nuclear Energy Partnership (GNEP), the primary focus of which was commercial reprocessing. Meanwhile, the new US government has adopted a policy of introducing renewable energy on a large scale. Europe, of course, is already well advanced in the fields of wind and solar energy.

Japan too has made significant progress in

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Members of the "*Know Pluthermal*" *Shiribeshi Citizens' Network*

photovoltaic cells. If there is explosive growth in this field, so that each household is able to produce its own electricity, we can hope for a time in the not too distant future when huge nuclear power plants will no longer be necessary. Even if it will take quite a while to achieve a phase out of nuclear energy, times are changing. By proclaiming this vision, the "*Know Pluthermal*" *Shiribeshi Citizens' Network* hopes to change people's perceptions.

It is said that Japan became a democracy after World War 2 ended. But Japanese civil society has not attained the level of awareness of Europe and America. That is because it is not a democracy that we won through our own efforts. We give up because we fatalistically believe that "national policy" is something that we just have to live with. This suits the politicians of course. The majority of people, especially in the provinces, pay homage to experts and don't debate issues. I too was one of those who shied away from taking action, but opposition to pluthermal shifted me from being an observer to being a participant. It took me 66 years to see the light, but now at last I am acting on my convictions.

There are many well-informed and experienced people in the "*Know Pluthermal*" *Shiribeshi Citizens' Network*. They have supported newcomers like me. They help us to understand that the real fight is ahead of us. Together we intend to struggle as long as it takes to achieve a phase out of nuclear power.

1. The term 'pluthermal' refers to the use of plutonium in thermal reactors (i.e. light water reactors), as opposed to in fast breeder reactors. The fuel is made from a mixed oxide of plutonium and uranium (MOX).

# NEWS WATCH

## **Replacement of Monju fuel begun**

On June 24 Japan Atomic Energy Agency (JAEA) began replacing old fuel with new fuel in its prototype fast breeder reactor (FBR) Monju (280 MW) located in Tsuruga City in Fukui Prefecture. Over thirteen years have elapsed since the reactor was shut down due to a sodium leak and fire in 1995. During that time much of the plutonium-241 has decayed to americium-241. As a result, the amount of fissile plutonium in the fuel is less than it was. It is therefore necessary to replace 84 of the reactor's 198 fuel assemblies. Three fuel assemblies in the blanket and 19 control rods were also replaced as a part of plant confirmation inspections that were resumed on June 1. Starting at the end of July, the remaining seven inspection items will be carried out.

## **Application for approval of Hamaoka-1&2 decommissioning plan**

On June 1 Chubu Electric Power Company applied to the Minister for Economy, Trade and Industry for approval of the decommissioning plan for its Hamaoka-1&2 units (BWR, 540 MW & 840 MW). The two units were permanently shut down on January 30 this year. The plan is to begin dismantling equipment around the reactors in 2015 and to finish decommissioning by 2036. It is predicted that decommissioning of the two units will produce a total of 483,300 tons of waste, including 16,600 tons that will be treated as radioactive waste. It is estimated that dismantling the plants and disposal of the waste will cost 84 billion yen.

## **METI releases nuclear power promotion policy**

On June 18 the Ministry for Economy, Trade and Industry (METI) finalized a nuclear power promotion policy. The policy statement claims that it will be necessary for nuclear to reach around 40% of total electricity supply in 2020. It envisages that by 2018 nine new reactors will be built, power uprates will be carried out and the capacity factor (which has fallen in recent years) will be raised from around 60% to around 80%. In regard to the nuclear fuel cycle, it is proposed

that the government, Japan Atomic Energy Agency (JAEA) and Japan Nuclear Fuel Ltd. (JNFL) work together for the smooth operation of the Rokkasho Reprocessing Plant, that spent fuel storage capacity be increased, that the pluthermal plan and fast breeder development be promoted, that a stable supply of uranium fuel be secured, and so on. In regard to the search for a high-level waste disposal facility, it is claimed that documentary studies will be carried out at an early date at several candidate sites (the more the merrier). Applications from candidate sites may be called for through public invitations, or the government may approach potential candidates directly.

## **International Nuclear Energy Cooperation Council formed**

The International Nuclear Energy Cooperation Council was established on June 18. The new body includes representatives from both government and the private sector. The core organization is the Ministry for Economy, Trade and Industry (METI). Other participating organizations include the Cabinet Office, the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the Ministry of Foreign Affairs (MoFA), the Federation of Electric Power Companies (FEPC), plant makers, academic institutions and research centers. The purpose of the Council is to pass on knowhow about nuclear security and safety to countries aiming to introduce nuclear power, in particular in Asia, and to help Japanese nuclear industry get a foothold for securing uranium resources and exporting nuclear power plants.

## **Satellite office for advancement of FBR**

On June 1, Japan Atomic Energy Agency (JAEA), Mitsubishi Heavy Industries (MHI) and Mitsubishi FBR Systems (MFBR) established a satellite office for the advancement of fast breeder reactors (FBR) in JAEA's Oarai Research and Development Center. The Joyo experimental FBR (140 MWt) is also located in JAEA's Oarai facility (Ibaraki Prefecture).

As the principal research and development organization, JAEA will manage and lead the project. MHI is the core company, while MFBR

will participate as a specialist engineering company. The project is called the Fast Reactor Cycle System Technology Development Project (FaCT). The satellite office will establish the appropriate conditions for improving the efficiency of reactor design and resolving technical problems. In order to strengthen coordination of reactor core and nuclear fuel safety analysis, JAEA has taken in engineers from MHI and MFBR.

### **Review of Japan's nuclear energy policy postponed**

The Japan Atomic Energy Commission was established in 1956. In that year it produced a Basic Plan for Research, Development and Utilization of Nuclear Energy. Five years later, in 1961 it established the Long-Term Plan for Research, Development and Utilization of Nuclear Energy. It has renewed this long-term plan at approximately five year intervals ever since. In 2005 it produced a new policy, changing the name to Framework for Nuclear Energy Policy.

Next year it will be five years since the last plan was approved. However, on July 2 Kyodo News reported that establishment of a nuclear policy planning council to produce a new plan had been postponed. According to the article, the reason for the delay was that it is unclear what direction the new policy should take. That is because it is impossible to predict when the troubled Rokkasho Reprocessing Plant, the core facility in Japan's nuclear fuel cycle, will begin commercial operations.

### **Japanese High Temperature Gas Reactor technology to Kazakhstan**

Kyodo News reported that on June 19 the director of the Kazakhstan National Nuclear Center, Kairat Kadyrzhanov, announced a plan to build a high temperature gas reactor using Japanese technology. The reactor is to be built at Kurchatov near Semipalatinsk, the former Soviet Union's nuclear weapons test site in north-east Kazakhstan.

Kadyrzhanov said that the reactor would be based on Japan Atomic Energy Agency (JAEA) technology and that Toshiba and Kazatomprom are currently negotiating to set up a joint company.

JAEA owns the High Temperature Engineering Test Reactor (HTTR, 30 MWt) at Oarai in Ibaraki Prefecture.

Kurchatov's first high temperature reactor will have a power output of 50 MWe and also provide heating and hot water. If things go according to plan, construction will be completed in 2018 and commercial operation will begin in 2022. It is estimated that the price will be over \$500,000. The Japanese side will provide over half the finance, while Russia and Slovakia are also interested in being involved. It is said that Kazakhstan will apply to the Japan Bank of International Cooperation (JBIC) for support.

### **Electric power companies, Itochu to develop uranium mine in WA**

On June 18, three electric power companies, Kansai Electric, Kyushu Electric and Shikoku Electric, along with Itochu Corporation announced that they will participate in feasibility studies for development of a uranium mine at Lake Maitland in Western Australia. The investment will be made via their jointly owned investment company, Japan-Australia Uranium Resource Development (JAURD). The estimated uranium deposit is 9,100 tons. They aim to commence production in 2011.

If the results of the feasibility studies are favorable and they decide to participate in further development, they will receive a 30% interest (the monetary value was not disclosed) in the mine from Canada's Mega Uranium. Itochu will receive a further 5% through a different subsidiary.

### **JOGMEC to explore for uranium in Uzbekistan**

On June 16, Japan Oil, Gas and Metals National Corporation (JOGMEC) announced that it had signed a joint uranium exploration agreement with Uzbekistan's GOSCOMGEOLOGY. The estimated uranium deposit is 5,000 tons. Three mining properties in Kyzylkum in Uzbekistan's Navoi Province will be explored. The survey results will be compiled by March 2010 in order to determine whether to continue the survey. If an economically viable deposit is discovered, JOGMEC says that a Japanese private company will take over.

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