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Citizens' Nuclear Information Center

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Monju Restart Delayed Again



Trucks transporting nuclear fuel for Monju (May 2008)

On 20 August 2008 the Japan Atomic Energy Agency (JAEA) announced a change to its schedule for completing plant confirmation tests for the Monju Prototype Fast Breeder Reactor (FBR, 280 MWe). JAEA said that it now aims to restart Monju around February 2009. This represents a delay of about 4 months. The previous target of October 2008 was announced in August 2007.

The latest delay arose as a result of the very long time taken to check equipment for detecting sodium leaks. Because these checks have taken such a long time, the fuel in the reactor core has degraded to the point where it cannot reach criticality. Consequently new fuel has to be fabricated. This article summarizes the issues involved.

Sodium Leak Alarm

Monju has been out of action since a sodium leak caused a fire in the plant in 1995. In the last couple of years, the sodium leak detector alarm has gone off repeatedly in various locations. The first time was on 7 August 2007 in the room housing the tubing of the main circulation pump for the secondary system. JAEA explained that the wiring was severed due to a manufacturing error. The second time was on 28 August 2007. The location of the problem was again the secondary system, but on this occasion it was the room housing the steam generator in the A loop of the secondary coolant. Once again it was a false alarm, this time caused by a loose screw in the internal base plate. JAEA replaced the screw and said

that it had altered the structure so that the screw could not come loose again. Then on 13 January 2008, there was another false alarm in the same room as on 28 August 2007. This time JAEA said that alarm went off because of a change in pressure and temperature.

JAEA had submitted a report to the government on 13 October 2007 saying that its safety assessment was complete. The report stated that all items identified

by the government as requiring safety checks had been fully checked. The Nuclear Industrial and Safety Agency (NISA) accepted the report in February 2008 and JAEA was preparing to restart the plant when, on 26 March 2008, a "contact-type sodium leak detector" alarm went off in the primary system. The alarm continued for two hours and six minutes. As it turns out, there was no sodium leak, but JAEA did not inform Fukui Prefecture, Tsuruga Town, Mihama Town and other municipalities for three hours and the delay in notification became a major issue.

This was not the end of the false alarms. Two days later, on March 28, the alarm was set off again by the same detector and it continued to go off intermittently thereafter. When the detector was inspected it was discovered that the head of the detector (an electrode) was bent as a result of a manufacturing error.

The detectors in question are referred to as

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"contact-type sodium leak detectors (CLD) with sealant". In response to directives from Fukui Prefecture and NISA, JAEA inspected all CLDs with sealant in the primary and secondary systems. Besides bent heads, the inspections identified numerous errors, including loose sealants, and incorrectly inserted detectors. There are a total of 252 CLDs with sealant in the primary and secondary systems. Of these, 31 had bent heads and 98 were incorrectly inserted. JAEA will replace all 252 of this type of detector.

By July 24, JAEA had carried out checks on 1,350 other types of detectors (besides CLDs with sealant) and checks on 3,000 other items produced by the same company that manufactured the faulty CLDs with sealant.

On April 19, the head of NISA said, "In view of the fact that there are issues in common with the 1995 sodium leak accident, we have no choice but to treat this as a very serious problem."

Alarms Continue

One would have thought that a thorough inspection had been done, but more alarms went off on June 19 (not reported) and July 4 (reported one hour late) in the C loop of the secondary system, on August 22 in the primary system, and on September 6 in the sodium flow adjustment tank in the secondary system. It is as if the sodium leak detectors are sounding the alarm that JAEA is not qualified to operate Monju. On August 21, an article in the Fukui Shimbun reporting the delayed schedule carried the following headline: "Even February 2009 restart is dubious". The headline may turn out to be prophetic.

While Monju Remains Idle

Shipping of fuel for Monju began in July 1992 and nine shipments were carried out up to March 1994. Reprocessing to extract plutonium and fuel fabrication predate these shipments. The plutonium used in Monju comes from spent fuel from light water reactors (LWR). Generally "fissile plutonium" represents 70% of the total plutonium in spent LWR fuel. Pu-241 represents about 11~15% of total plutonium. Pu-241 is "fissile", but with a half-life of just 14 years it decays rapidly to become Americium-241. Even though this Pu-241 was considered "fissile" when the fuel was fabricated, Monju has not operated for 13 years since the December 1995 sodium accident. Since the fuel was fabricated before then, by now over half of the original "fissile" Pu-241 has decayed into Am-241. Furthermore, even though Monju only operated for a brief time up to a maximum of 40% of full capacity, that further reduced the amount of fissile plutonium.

The net result is that JAEA says that it is impossible to restart Monju using the fuel currently loaded.

JAEA intended to load 78 "new" fuel assemblies, which were fabricated around 1996, in order to achieve criticality and an output of around 10% of full capacity. Of these 78 "new" assemblies, 48 (including 2 spares) were stored at Monju and 32 were stored at JAEA's reprocessing facility in Tokai Village, Ibaraki Prefecture.

JAEA transported the 32 assemblies from Tokai to Monju in two road shipments, 18 assemblies in May this year and 14 in July. In 2005 the Nuclear Reactor Regulation Law was amended to strengthen nuclear security. On 28 November 2005 an advisory notice was issued by the Ministry of Land, Infrastructure, Transport and Tourism, the Ministry of Economy, Trade and Industry (Nuclear Industrial and Safety Agency) and the Ministry of Education, Culture, Sports, Science and Technology. This notice made it possible to conceal information about the route, security measures and so on related to the shipment of nuclear fuel. By rights, therefore, the shipments should have been carried out in secret, but details were leaked giving people opposed to the restarting of Monju and people concerned about the danger of the shipments an opportunity to protest.

Even then, Monju will not be able to achieve output of 40% of full capacity. The replacement fuel is only to start up the plant. In that case it would be better to use new fuel, but apparently researchers are excited about the prospects of a world first experiment in starting an FBR with a large amount of Americium in the fuel. However, using Monju to carry out such superfluous experiments increases the risk of further accidents.

Due to the extended time taken to deal with the false alarms from the sodium leak detectors, the restart of Monju has been further delayed. The result is that, even using the 78 "new" fuel assemblies, Monju won't be able to achieve criticality. The reason why JAEA delayed the restart to February 2009 was to allow time to fabricate and load new fuel. According to JAEA, at least three new assemblies have to be fabricated and loaded in order to achieve criticality. With this they say they will be able to achieve 10% of full capacity. Thereafter, they will have to load more new fuel. In order to achieve 40% of full capacity they need to load 24 new assemblies and for 100% capacity they need to load an additional 57 new assemblies. At the time of writing, fabrication of these assemblies had not begun and according to media reports it is doubtful whether they will even be able to fix the problem of the sodium leak detectors in time for a February restart.

Rokkasho Reprocessing Plant Vitrification Facility's Troubles Continue

Japan Nuclear Fuel Ltd. (JNFL) is supposed to be conducting active tests at the Rokkasho Reprocessing Plant, but in reality the plant has been effectively out of action for around nine months since the end of 2007. The reason is that problems continue to plague the vitrification facility, which mixes high active liquid waste with molten glass, in order to seal the radioactive waste in glass canisters. As a result, in July JNFL was forced to announce that the date for completion of active tests had been postponed until November. However, even in the unlikely event that the facility operates without a hitch from now on, this is already an impossible schedule. There is no chance that the plant will commence commercial operations before 2009.

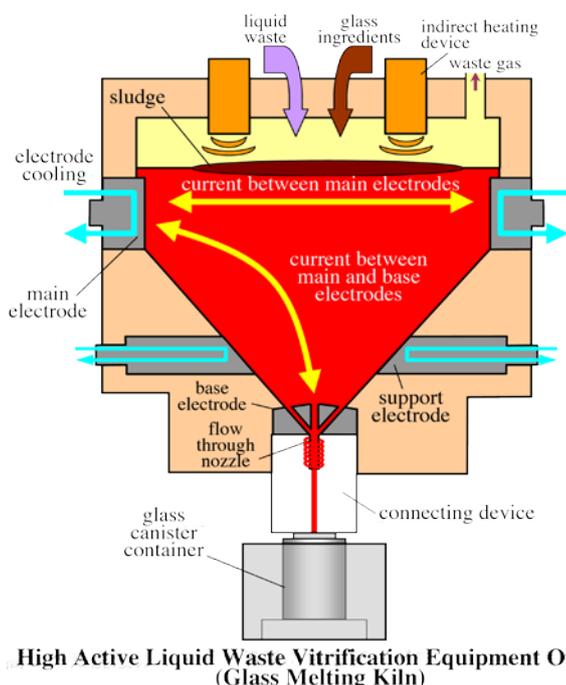
During tests carried out over a period of about a month at the end of 2007, JNFL was unable to maintain the glass melting kiln at the required constant temperature of 1,200°C. As a result, platinum group elements (palladium, ruthenium, etc.) contained in the high active liquid waste accumulated at the bottom of the kiln, blocking the outlet and preventing the waste from flowing smoothly into the canisters below. The tests were held up for the next six months while JNFL tried to fix the problem. On July 2 the tests were finally

recommenced, but although the liquid flowed down for a moment, the flow stopped almost immediately. Further attempts to recommence the tests failed and the facility remains as it was, with radioactive waste and glass still stuck in the kiln. This dangerous situation was not even foreseen in the operation manual.

In September, two months after the latest attempt to operate the facility, the situation has only just become clear. According to JNFL, molten glass became stuck around the flow-through nozzle at the bottom of the kiln. JNFL used a heater made especially to deal with this problem to remelt the glass that had become stuck to the nozzle to allow it to flow through. An implement was then used to remove the remaining glass that had adhered to the high frequency heating coil. In addition, the coupling device which connects the nozzle to the canisters into which the glass flows was removed for inspection. The cause and mechanism by which the molten glass became stuck is still unclear. Consequently, there is no indication when the tests will recommence.

All sorts of problems have arisen in the production of high-level waste glass canisters at the Rokkasho Reprocessing Plant. It is still not possible to determine the causes of the problems, or appropriate responses to these problems. Stable production of glass canisters is one of the acceptance conditions for the active tests. Obviously, it is impossible to give approval for commercial operation of the plant if it does not have the capability to produce glass canisters.

Masako Sawai (CNIC)



High Active Liquid Waste Vitrification Equipment Outline
(Glass Melting Kiln)

Haiku for the season

*Scenes on the river
Anglers in clear water
An egret on the ford*

by Sachiko Kondoh

Japan to Finance Construction of American Nuclear Power Plants?

The deception of the Trade and Investment Insurance for Preventing Global Warming scheme

On July 29 the Ministry of Economy Trade and Industry (METI) announced the establishment of the Trade and Investment Insurance for Preventing Global Warming scheme within Nippon Export and Investment Insurance (NEXI), saying that it aimed to implement the scheme by around January 2009. METI said that the purpose was to assist developing countries which are serious about working with Japan to respond to global warming. But for some strange reason the scheme is not restricted to developing countries.

Nuclear power plants and equipment are specifically included as examples of the type of exports to which the scheme will apply. Clearly the scheme has been designed to facilitate such exports, new nuclear plants in the US being the prime candidates.

In October the Japan Bank of International Cooperation (JBIC) will be split up, with JBIC's Overseas Economic Cooperation Operations merging with Japan International Cooperation Agency (JICA) and JBIC's International Financial Operations merging with three other government financial institutions to form the Japan Finance Corporation (JFC). In principle, finance provided by JFC will be restricted to developing countries, but exceptions may be approved by regulation for investment finance that maintains or improves the international competitiveness of Japanese industry. Cabinet approved such a regulation on August 28 to allow JFC to provide investment finance for the construction of nuclear power plants in developed countries.

On June 7 Akira Amari, then Minister of Economy Trade and Industry, and US Energy Secretary Samuel Bodman, issued a joint statement on Japan-US nuclear cooperation in which they expressed their "intention to consult on potential financing support measures that would facilitate nuclear power plant construction in the United States of America, incorporating the financial institutions identified by METI (Japan Bank for International Cooperation (JBIC) as well as Nippon Export and Investment Insurance (NEXI)), and identified by the United States Department of Energy (DOE Loan

Guarantee Program Office)."

Clearly JBIC finance and NEXI export insurance for US nuclear power plants are part of the same overall plan.

NEXI insures Japanese companies' export-related risks which cannot be insured by standard commercial insurance: for example war, prohibition of foreign currency conversion and importer bankruptcy. In the past such insurance was provided directly by MITI (now METI), but in April 2001, in the context of a reorganization of central government agencies, the function was shifted to NEXI, which was established as an independent administrative institution. (The Japanese Government reinsures insurance agreements underwritten by NEXI.) It is planned that NEXI will be converted into a fully government owned corporation. Until 2004, NEXI was the exclusive provider of foreign trade and investment insurance services in Japan, but in 2005 the Japanese government deregulated the market and started to issue licenses to private insurers both domestic and foreign.

Under these circumstances, on July 22 the Export Insurance Subcommittee of the Industrial Structure Advisory Council compiled a report on the future of the export insurance system. The following is a translation of an extract from the report.

"Global environmental problems have become an international issue and Japan has an international responsibility to encourage the expansion overseas of excellent environmental and low energy technology. Furthermore, there are calls for the government to cover risks associated with the expansion overseas of projects which entail extremely high risks, such as aircraft and nuclear industry related projects. In the context of climate change, it is extremely important that export insurance be integrated with national policy."

In that case, it would seem to be preferable for the government to continue to carry out the role directly, without corporatizing and encouraging private involvement in export insurance. But leaving that aside, important issues identified in the above report were brought together in the Trade and Investment Insurance for Preventing Global

Warming scheme. (Another major issue is already covered by the Comprehensive Natural Resources and Energy Insurance scheme, which is aimed at securing natural resources.)

However, is it really possible to combine nuclear energy-related projects and the overseas expansion of environmental and low-energy technology under a single scheme? Is nuclear energy an effective response to global warming? How should we view the potential for radiation related disasters? Furthermore, is it appropriate to include projects with such different risks and different target countries under the one scheme? These are all serious questions that must be answered.

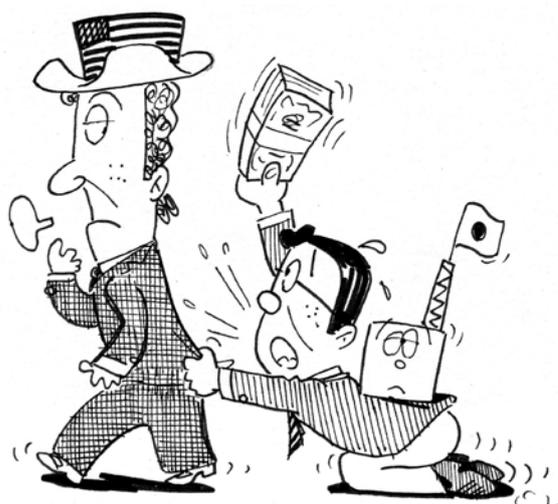
On June 23, Sankei News reported, "Even US financial institutions have limited experience of financing the construction of nuclear power plants and 'it is difficult to obtain finance for new construction projects' (Agency for Natural Resources and Energy)." There would definitely be opposition to the establishment of a separate "extremely high risk" nuclear power plant insurance support scheme to serve the interests of the US. So in order to avoid such criticism, they have surreptitiously slipped it into the Trade and Investment Insurance for Preventing Global Warming scheme.

It is unclear in what form JBIC/JFC intends to provide finance for the construction of nuclear power plants in developed countries, but perhaps it will be a similar makeshift arrangement to the NEXI scheme. In April 2005, the Japan Atomic Industrial Forum issued a report containing the following proposal:

"We understand that JBIC's in principle ban on finance for developed countries was instituted to prevent pressure being applied to private financial institutions. However, since even in developed countries there are cases where it is difficult for private financial institutions to provide the very long term finance required for the construction of nuclear power plants, there is room for reviewing this in principle ban in the case of the export of nuclear power plants."

The idea goes like this. US financial institutions find it difficult to provide finance for the construction of American nuclear power plants, despite America's own loan guarantee scheme, so JBIC/JFC will provide some finance and, backed by NEXI's export insurance, Japanese private financial institutions will provide some more finance. One must say that it is an improbable scenario for such an "extremely high risk" industry.

Of course it must not be forgotten that before



Cartoon by Shoji Takagi

Japan exports nuclear technology to the US, it needs to consider the fact that the US is a nuclear weapons state.

Despite these concerns, a review of JBIC's and NEXI's Environmental and Social Guidelines is deliberately vague about the environmental issues associated with nuclear-related projects. JBIC/NEXI are taking a hands-off approach, leaving METI to carry out a grossly inadequate review of environmental and social issues specific to nuclear projects (nuclear safety, nuclear waste and proliferation). Neither the current guidelines, nor the new draft guidelines contain any requirement for freedom of information or stakeholder involvement for these aspects of nuclear projects supported by JBIC/NEXI. Such a requirement might not be an obstacle for nuclear exports to developed countries, but it would certainly make it difficult to approve finance and export insurance for nuclear projects in many third world countries.

In the October 2002 edition of the journal *Denki*, Yasuo Nakagawa (then head of the nuclear division of the Japan Electrical Manufacturers' Association) said in the case of the export of nuclear plants that responsibility should be made clear for issues of nuclear proliferation, safety assurance, response to nuclear accidents, spent nuclear fuel and radioactive waste. Under the Foreign Exchange and Foreign Trade Act, METI is the organization in charge of export control of safety assurance. METI also carries out safety confirmation.

However, the details of the safety assurance system for nuclear exports are not publicized and JBIC/NEXI Guidelines make no reference to the system. Recognizing this deficiency, JBIC/NEXI plan to include a brief explanation of the system on their web sites, but METI *continued on page 7*

Serious Crack Found in Ohi-3 Reactor Vessel Nozzle

SCC in reactor vessels

On April 8, Kansai Electric Power Company (KEPCO) announced that during a periodic inspection of its Ohi-3 nuclear power plant (PWR, 1180MW) a crack was found in a nozzle in the reactor vessel. It is a very serious problem, because if a large quantity of cold water were injected into this location, the crack could open up further leading to the sudden rupture of the nozzle.

The crack was found in a weld on the inside surface of the primary coolant outlet nozzle (nickel Alloy 600) in loop A. The outer diameter of the nozzle is approximately 882mm and the thickness is about 74.6mm. (The license application specified it as being at least 70.0mm.)

The crack was found when KEPCO was conducting eddy current tests in preparation for precautionary measures against stress corrosion cracking (water jet peening) in 4 outlet nozzles (hot leg side) and 4 inlet nozzles (cold leg side) in

the reactor vessel (figure 1). From the shape of the crack, it is believed to have been caused by Stress Corrosion Cracking (SCC).

Crack won't disappear with grinding

Later, using an underwater camera, the crack was identified as being 3mm long running along the axis of the inner surface of the nozzle. It was believed to be very shallow, because the depth of the crack could not be assessed with ultrasound

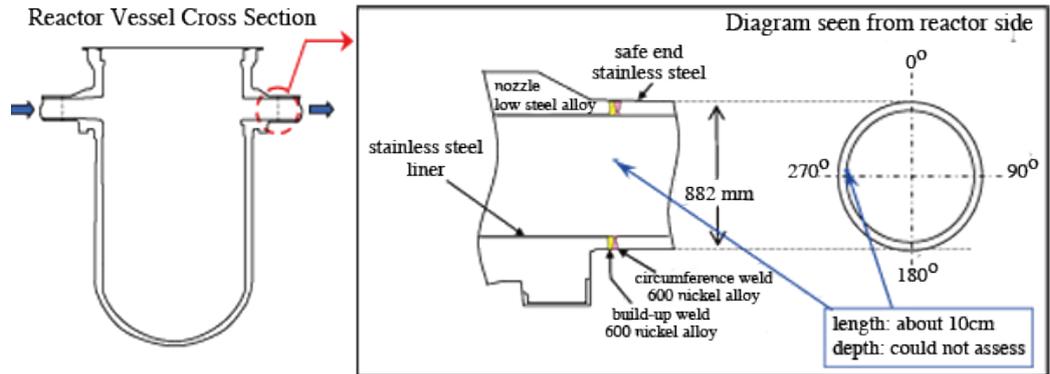


Figure 1: Location of crack in reactor vessel nozzle of Ohi-3

tests. However, grinding the surface to remove the crack only revealed that it was longer than it appeared on the surface.

As can be seen in figure 2, after grinding down 3.6mm the crack was 13mm long. When it became clear that the thickness of the nozzle would have to be reduced to less than the approved 70.0mm,

KEPCO applied for permission to reduce the allowed thickness to 64.0mm. After grinding down 4.6mm the crack was 12.5 mm long. It was still 5.5 mm long after it had been ground down 10.5mm. Since it was necessary to grind down even further, on July 16 KEPCO announced that it would again apply for

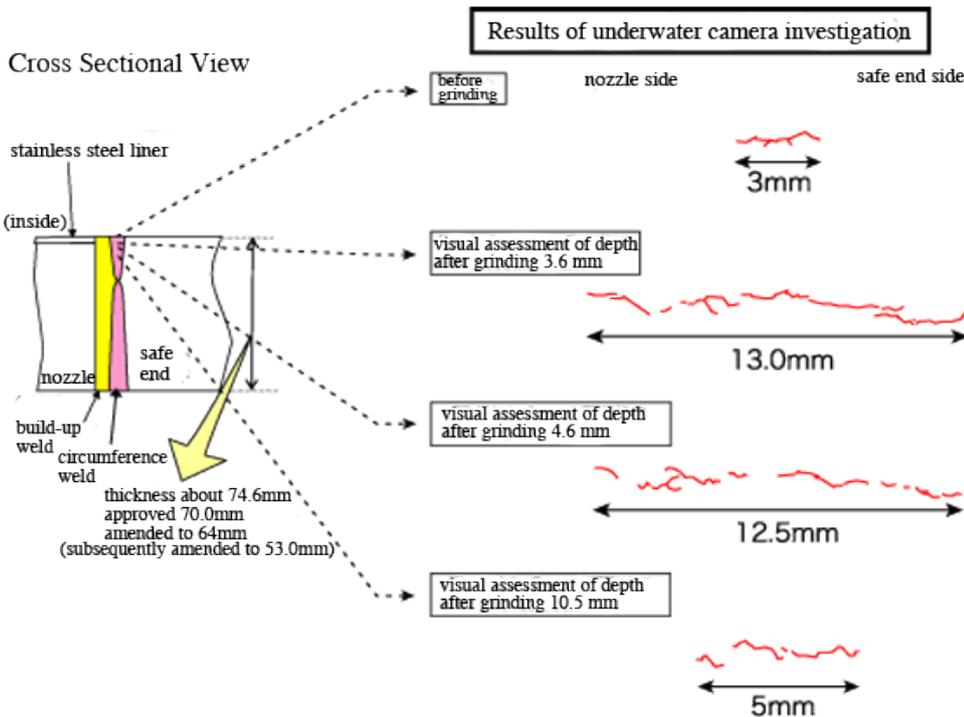


Figure 2: Crack found in primary coolant outlet nozzle of Ohi-3 reactor vessel

permission to reduce the allowed thickness. Finally, on August 27, KEPCO announced that the crack had disappeared after grinding down 20.3mm. "Just to be on the safe side", it ground a little bit more off. The area in question was then 53.6mm thick, a fraction above the minimum thickness of 53.0mm finally approved by the Nuclear Industrial and Safety Agency (NISA).

Is grinding an acceptable solution?

Over the last few years there have been many reports of SCC in nickel Alloy 600 in pressurized water reactors (PWR).

In October 2000, SCC was discovered in a reactor vessel nozzle in the Virgil C. Summer reactor in the US. Before that SCC was found in reactor vessel nozzles in the Ringhals 3&4 in Sweden. In Japan, SCC in reactor vessel nozzles was discovered in Shikoku Electric Power Company's Ikata-1 in November 2004 and in Ikata-2 in September 2005.

In the Virgil C. Summer case, the crack penetrated right through and caused a leak of primary coolant. The welded section was cut out and replaced with a stainless steel "safe end". In the case of Ikata 1&2, Shikoku Electric removed the cracks by grinding the inner surface and building up the surface by welding over the top with nickel Alloy 690.

Since the depth of the crack did not register on the ultrasound tests, KEPCO presumably concluded that, as in the Ikata case, grinding would suffice for Ohi-3 too. However, KEPCO must have been at a loss what to do when the crack did not disappear after grinding down over 10mm. The fact that the crack was located in the reactor vessel and the fact that non-destructive tests did not reveal the dimensions of the crack are both causes for serious concern.

On August 8, KEPCO announced that NISA had approved its application for permission to grind down even further over a surface area of 11mm (axis) by 13mm (across). But it is not enough to simply remove the crack. Since the mechanism by which the crack arose is not understood, there are no grounds for assuming that the cause has disappeared. Furthermore, how can we be sure that there are no other cracks?

Chihiro Kamisawa (CNIC)

continued from page 5 shows no inclination of becoming more transparent.

We demand that nuclear power plants and individual parts and equipment for nuclear power plants be removed from The Trade and Investment Insurance for Preventing Global Warming scheme. In addition, we demand that:

- The Trade and Investment Insurance for Preventing Global Warming scheme be restricted to developing countries;
- no exceptions be allowed for projects financed by NEXI and JBIC/JFC;
- environmental and social issues specific to nuclear energy projects (nuclear safety, nuclear waste and proliferation) be properly covered in JBIC's and NEXI's guidelines and appropriate checklists be prepared;
- the export control system for nuclear-related projects be made transparent.

Baku Nishio (CNIC Co-Director)

continued from page 12 cooperation in the development of demonstration sodium cooled fast reactors. The three countries agreed that experimental data obtained after the restart of Monju and operational and maintenance experience will be reflected in development of demonstration fast reactors. As a result of strengthened cooperation, research facilities will be rearranged to enable joint use and duplication of development work will be avoided.

Toshiba, IHI and Doosan team up for construction of nuclear reactors

The Yomiuri Shimbun reported on August 26 that Toshiba, IHI and Doosan Heavy Industries & Construction have agreed to team up for the construction of nuclear reactors. The Toshiba-Westinghouse group has already obtained orders in the US and China for 12 PWR units. It aims to gain world-wide orders for 33 reactors by 2015, but Toshiba lacks PWR technology having only constructed BWRs until now. Doosan will supply PWR manufacturing know-how, while IHI will re-equip for the manufacture of steam generators. Doosan will manufacture for the Chinese market, while IHI is expected to manufacture for the US market.

However, even if Toshiba-Westinghouse wins orders to construct 33 reactors by 2015, it is unrealistic to expect it to maintain construction at this pace.

Worker Exposure Data for 2007 and the Workers' Compensation Case of the Late Tadashi Kiyuna

The Nuclear Industrial and Safety Agency (NISA) has published the collective radiation dose incurred in the 2007 fiscal year (April 2007 to March 2008) by people working at nuclear power plants, including Fugen and Monju. The collective dose was 78.27 person sieverts, an increase of 10.64 person sieverts compared to the previous year.

The increase resulted from the need to carry out inspections and repairs in response to many problems arising in aging reactors, including problems with control rods.

Compared to the previous year, the collective dose incurred working on pressurized water reactors (PWR) increased by 6.08 person sieverts. This included an increase of 3.80 person sieverts at Sendai Nuclear Power Plant (Kyushu Electric) and 3.39 person sieverts at Takahama (Kansai Electric). The collective dose incurred at boiling water reactors (BWR) increased by 4.67 person sieverts, including an increase of 3.21 person sieverts at Fukushima II (Tokyo Electric), 2.84 person sieverts at Shimane (Chugoku Electric) and 2.16 person sieverts at Onagawa (Tohoku Electric).

All 360 people who received doses in the 15 - 20 milli-sievert (mSv) range were subcontractor workers. A further 3 subcontractor workers received doses in excess of 20 mSv, the highest individual dose being 21.1 mSv at Takahama (Kansai Electric). The highest dose for an employee of an electric power company was 11.4 mSv at Shimane.

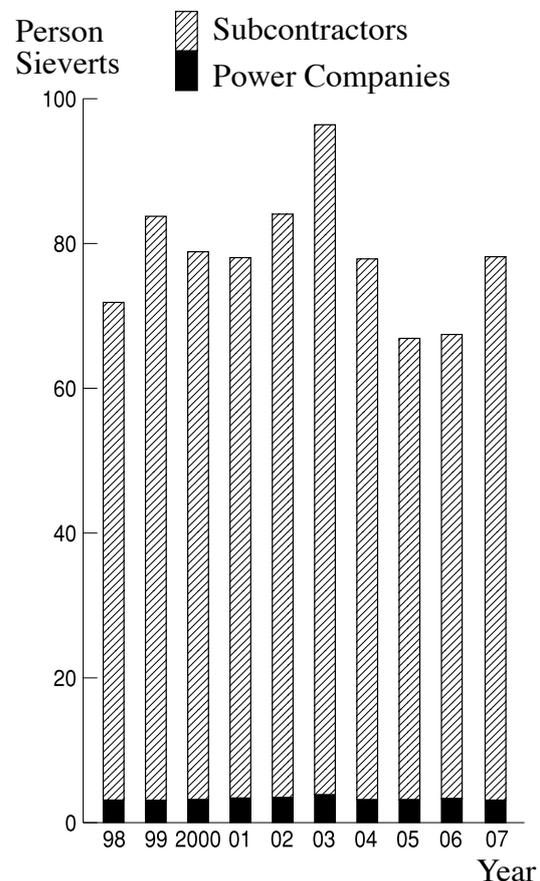
The data published by NISA does not take into account the fact that many people work at more than one site. According to the Radiation Dose Registration Center for Workers (Registration Center), which calculates the total dose received by individuals at all work places, 709 workers received doses in the 15 - 20 mSv range and 5 workers received doses in the 20 - 25 mSv range. The Registration Center does not distinguish between work carried out at nuclear power plants, or between power company employees and subcontractors. However it is a fair assumption that all the workers who receive high radiation doses at nuclear power plants are subcontractor workers. In any case, the overwhelming majority of radiation exposure at nuclear power plants is incurred by

subcontractor workers, who receive 96% of the collective dose.

The workers compensation case of Tadashi Kiyuna, who died of malignant lymphoma after receiving a total dose of around 100 mSv in a period of 6 years and 4 months, is continuing (see NIT 120). The Ministry of Health, Labour and Welfare has held four closed expert committee meetings, but no decision has yet been made. The expert committee is considering the details of Kiyuna's work, medical issues including a theory that the condition is caused by a virus, and accumulated case studies. On September 11, citizens concerned about worker radiation exposure at nuclear power plants submitted a petition signed by over 150,000 people throughout Japan and demanded that Kiyuna's workers compensation claim be swiftly accepted.

Mikiko Watanabe (CNIC)

Worker Exposure at Japanese Nuclear Power Plants (1998-2007)



Statement Concerning an Amendment to NSG Guidelines Granting an Exemption for India

After extending its deliberations by one day to September 6, an extraordinary meeting of the Nuclear Suppliers Group (NSG) finally agreed to amend its guidelines to allow a special exception for India. The amendment exempts India from the Non-Proliferation Treaty (NPT) requirement that countries may only engage in nuclear trade if they accept International Atomic Energy Agency (IAEA) full-scope safeguards, despite the fact that India developed nuclear weapons outside the NPT framework. This decision risks shaking the foundations of the NPT system and is therefore totally unacceptable.

Circumstances evolved rapidly after the agreement between Indian Prime Minister Singh and US President Bush at the July Toyako G8 Summit to expedite the US-India Nuclear Agreement. On August 1 the IAEA Board of Governors approved a safeguards agreement covering some of India's nuclear facilities. Then on August 21, 22 the NSG held an extraordinary plenary meeting to consider whether to exempt India from its ban on nuclear trade with countries that have not accepted full-scope IAEA safeguards. Strong objections were raised by countries including Austria, Ireland, the Netherlands, New Zealand, Norway and Switzerland, so the NSG reconvened on September 4 and 5. The meeting was extended to September 6, but regrettably, as a result of strong pressure from the US, an amendment to NSG Guidelines was finally passed granting an exemption for India.

Despite the history of the atomic bombing, the government of Japan accepted the US-India Nuclear Agreement, which affords exceptional treatment for India, without even making an effort to minimize the blow to the NPT system. In doing so, it ignored statements issued by groups representing Hibakusha (A-bomb sufferers) living in both Hiroshima and Nagasaki, by the Mayors of both these cities, by the Governors of Hiroshima and Nagasaki Prefectures, by local councils and prefectural assemblies, as well as the united calls of Hibakusha groups, nuclear disarmament groups and other peace groups throughout Japan which for years have been striving for nuclear disarmament. The government also ignored recent cross-party expressions of opposition by Members of the Japanese Diet. As citizens of the country that was attacked by nuclear weapons, we are overwhelmed with shame that we have such a government.

Together with people who fought with us for nuclear disarmament and non-proliferation on this occasion, we demand a convincing explanation from the government of its behavior in the NSG. Since there are many US Congress Members who have expressed opposition, we will also continue to strive to prevent this Agreement being approved by Congress. And we maintain our strong demand for the Japanese Government to strive for the banning and elimination of nuclear weapons and for the government to initiate a multi-lateral discussion to that end in the near future.

7 September 2008

Hibakusha Groups

Terumi Tanaka
Secretary General
Japan Confederation of A- and H-bomb Sufferers
Kazushi Kaneko
Director General
Hiroshima Council of A-Bomb Sufferers Organizations
Sunao Tuboi
Director General
Hiroshima Council of A-Bomb Sufferers Organizations

Other Hiroshima and Nagasaki Groups

Nobuo Kazashi
Director
NO DU Hiroshima Project
Steven Leeper
Chairman of the Board of Directors
Hiroshima Peace Culture Foundation
Haruko Moritaki
Director
Association for Peace Exchange with Indian & Pakistani Youth
Mitsuo Okamoto, Goro Kawai, Haruko Moritaki
Co-Directors
Hiroshima Alliance for Nuclear Weapons Abolition
Masanobu Omori
Director
Hiroshima Council Against A and Hydrogen Bombs
Hideo Tsuchiyama
Director
Nagasaki Global Citizens' Assembly for the Elimination of Nuclear Weapons

Other Japanese NGOs

Hideyuki Ban
Co-Director
Citizens' Nuclear Information Center
Sadao Ichikawa
Chair
Japan Congress Against A- and H-Bombs (Gensuikin)
Michiji Konuma
Secretary-General
Committee of Seven for World Peace Appeals
Masayoshi Naito
Coordinator
Citizens' Network for Nuclear Weapons Abolition
Osamu Niikura
President
Japanese Lawyers International Solidarity Association
Kenichi Ohkubo
Secretary General
Japan Association of Lawyers Against Nuclear Arms (JALANA)
Yoshiko Shidara
Co-Director
Women's Democratic Club
Hiroshi Taka
Secretary General
Japan Council against A- and H-Bombs (Gensuikyō)

Group Introduction

Kariwa Women for the Protection of Life: Hi Ho! Hi Ho!

by Yukiko Kondoh*

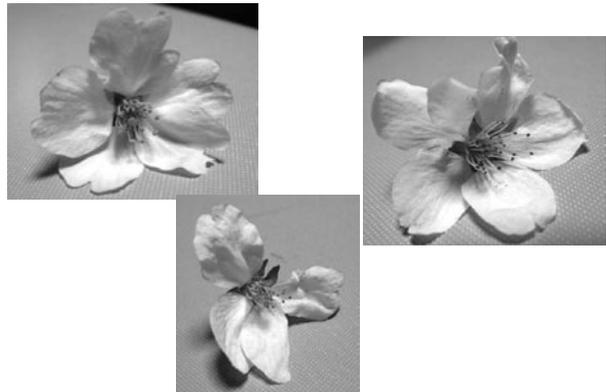
Hi! We are the Kariwa Women for the Protection of Life. Hairo! Hairo! It's off to work we go¹.

On 27 May 2001 a citizens' referendum was held in Kariwa Village about the introduction of pluthermal² at Tokyo Electric Power Company's (TEPCO) Kashiwazaki-Kariwa Nuclear Power Plant. Our group started in mid May 2001, on the brink of this momentous decision, with just two women proclaiming slogans such as the following: "We reject pluthermal! We refuse to accept any more risks! We are not guinea pigs! We are not going to just stand by and watch while our land is made uninhabitable!" Pluthermal supporters had distributed leaflets signed by all sorts of groups, so we thought it was worth trying to counter that. The name of the group changed several times, while our membership increased to five women who met each week.

Thanks to the tremendous support of many many people from all over Japan, we prevented the introduction of pluthermal. The battle continued after the referendum, but on 29 August 2002 it was revealed that TEPCO had covered up problems at its nuclear power plants and in September the prior agreements for pluthermal issued by the local and prefectural governments were withdrawn. Thus the pluthermal plan was derailed.

Having achieved our immediate objective, we began to call for the elimination of nuclear power, adding the following to our official name: "Close down all nuclear power plants!!" ("Hairo!" in Japanese). We thought that the "Hairo!" call would not catch on, but it became a major theme after last year's Chuetsu-Oki Earthquake, as a result of a statement by the Governor of Niigata Prefecture.

We are glad that it has become a major theme, but the damage from the earthquake was terrible. 4×10^8 becquerel of iodine was released from the exhaust stack of Unit 7, because they forgot to shut down the exhaust fan. Radioactivity was released to sea from Unit 6. And we suspect there were other radioactive releases. They claimed that the plant was "absolutely safe" and that "it will not release radioactivity", but even based on these releases of radioactivity alone, we believe the plant should be closed down.



It appears that TEPCO and the Nuclear Industrial and Safety Agency would like to pretend that these radioactive releases never occurred. However, a five-year survey of cherry blossoms conducted by the Tamposha Group revealed abnormalities. On April 11 this year four of our members went to see the cherry tree that we always visit. All the petals were clearly strange. "The deformity of these petals is terrible!" we exclaimed. It was not just the shape, but also the color and the wrinkles. Could this be the result of radiation? We began to wonder whether it was not just the cherry blossoms. Were the trees and the grasses deformed too? Were they too big? Was their color strange? We hope to observe this carefully from now on.

And we hope to close down the Kashiwazaki-Kariwa Nuclear Power Plant. Then, one after the other, we hope to close down all the nuclear power plants in Japan - not overstraining ourselves, starting from the things that we are able to do ourselves, and joining hands with people who share our feelings.

1. Demonstrators sang a bastardized version of this Disney theme song as they paraded around the streets of Kashiwazaki during the No Nukes Asia Forum in July.
2. 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).

* Yukiko Kondoh lives in Kariwa Village and is a member of the Kariwa Women for the Protection of Life.

NEWS WATCH

Extension of time allowed between periodic inspections

As reported in NIT 122, the Japanese government is planning to extend the time allowed between periodic inspections of nuclear power plants. On August 6 the Nuclear and Industrial Safety Agency (NISA) decided that the new arrangements would be introduced from January 2009.

Under the new system, based on assessments of each reactor, the maximum time allowed between periodic inspections may be increased from the current 13 months to 18 months and then to 24 months. It is said that the government is rushing to introduce the new system because the capacity factor of Japan's reactors is low compared to the international average. However, the cause of Japan's low capacity factor does not lie in the inspection system. Rather, it lies in the frequently occurring accidents and scandals, damage from earthquakes due to flawed seismic safety assessments, and the time taken to carry out inspections and repairs. Rather than rushing to increase the time permitted between inspections, these other problems should be addressed.

Recurring radiation exposure incidents at a fuel fabrication facility

On July 9, uranium oxide (UO₂) powder was scattered at the GNF-J plant in Yokosuka City, Kanagawa Prefecture. As a result, one worker was exposed to a radiation dose of 1.12 mSv by inhaling the powder. The following month, on August 8, uranium solution was spilled. On this occasion two operators and two supervisors were exposed to radiation by ingesting the material. The maximum dose was 1.87 mSv.

Moves to build HLW disposal simulation facility in Horonobe Town

Horonobe Town in Hokkaido Prefecture is the site of an underground facility, which is being constructed by Japan Atomic Energy Agency (JAEA) to carry out research into the disposal of

high-level radioactive waste (HLW). It is now reported that an additional facility will be built in Horonobe to simulate disposal of HLW. This facility will be managed by the Radioactive Waste Management Funding and Research Center, which controls funding for geological disposal. Locals believe that both JAEA's facility and the planned simulation facility are less about research and more about public relations and that the target of the PR is not so much the visitors to the facilities, as the townspeople themselves. They fear that they are being softened up for a permanent HLW dump.

Cooperation between Japan and the UK on fuel cycle and new plants

Denki Shimbun newspaper (19 August 2008) reported that on August 18 the Ministry of Economy Trade and Industry and the Federation of Electric Power Companies adopted policies to support nuclear fuel cycle business and construction of new nuclear power plants in the UK. Memoranda have already been exchanged at an administrative level and it is believed that specific projects will be discussed when UK government officials and industry representatives visit Japan in November.

Japanese industry is looking to open up new markets by participating in the construction of new power plants overseas. It is expected that discussions about the construction of new plants will cover such matters as a framework for training, technical cooperation and technology supply, as well as loan guarantees. In regard to fuel cycle cooperation, it is believed that issues up for discussion include new contracts for the supply of MOX fuel and the consignment to Russia of re-enrichment of uranium recovered from reprocessed spent fuel.

Integrated safeguards for Tokai Plutonium Facilities

Beginning on August 1, International Atomic Energy Agency (IAEA) integrated safeguards were collectively applied to six of the facilities

at Japan Atomic Energy Agency's (JAEA) site in Tokai Village, Ibaraki Prefecture. The six facilities include facilities for reprocessing, denitration and plutonium fuel fabrication. Japan's nuclear power plants were already subject to integrated safeguards, but this is the first time in the world that integrated safeguards have been applied to plutonium-handling facilities.

The integrated safeguards will involve frequent reporting of quantitative control information, frequent assessment of material unaccounted for (MUF) based on this information, remote monitoring systems covering the entire facility, and random inspections. Random inspections are supposed to raise the capacity to prevent diversion to military use, while at the same time enabling a reduction of staff and time dedicated to inspections. In the past, 976 person days per year were devoted to inspections of the six facilities, but it is predicted that improved efficiency will enable this number to be reduced by one third to 667 person days per year.

Organizational support for international nuclear cooperation

On August 27 the Nuclear Energy Subcommittee of the Advisory Committee for Natural Resources and Energy established a subcommittee to consider support for the introduction of nuclear power overseas. The subcommittee will be chaired by Satoru Tanaka, who is also head of the Nuclear Energy Subcommittee. The first meeting is scheduled to be held in October.

During the same Nuclear Energy Subcommittee meeting, the Agency for Natural Resources and Energy said that together with industry and academia it intends to establish an international nuclear energy cooperation council to strengthen the system for cooperation in relation to the

introduction of nuclear energy into countries in Asia and the Middle East. The council could commence as early as this fiscal year (by March 2009). Its purpose will be to provide support in areas such as training of operation control staff and development of safety regulations in order to establish a foundation for states considering introducing nuclear power for the first time.

In another initiative, an international nuclear safety working group within the Nuclear Industrial and Safety Subcommittee of the Advisory Committee for Natural Resources and Energy held its first meeting on August 1. The working group will develop policy applicable to the Nuclear Industrial and Safety Agency's international nuclear cooperation program, which includes providing advice on nuclear safety regulations for the establishment of a foundation for the implementation of nuclear power. *Denki Shimbun* newspaper (August 4) explained that it is hoped that in future this will lead to the transfer of "Japan's nuclear safety".

The Japan Atomic Industrial Forum (JAIF) is also considering its response to the issue of international cooperation. In July a working group established within JAIF's human resources development council held its first meeting. The working group will consider strategies for international cooperation, including the development of people capable of working on the international stage and the development of human resources in Asia.

Japan-US-France cooperation on Fast Reactors

On August 25, the Japan Atomic Energy Agency, the US Department of Energy and the French Commissariat à l'Énergie Atomique amended their January 2008 memorandum of understanding on *continued on page 7*

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. Please write to us for a subscription (Regular subscriber - \$30 or ¥3,000/year; supporting subscriber \$50 or ¥5,000/year). When paying in Japan, the subscription fee should be remitted from a post office to our post office account No. 00140-3-63145, Genshiryoku Shiryou Jouhoushitsu. Due to costly processing fees on personal checks, when sending the subscription fee from overseas, please send it by international postal money order. Alternatively, you can ask us to send you details regarding bank transfers. We would also appreciate receiving information and newsletters from groups abroad in exchange for this newsletter.

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