NUKE INFO TOKYO

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Plutonium Debate Held

IN THIS ISSUE

A symposium on the theme of "Why Plutonium Now?" was held on Sept. 25, co-sponsored by the Japan Atomic Industrial Forum and Citizens' Nuclear Information Center. It was the first time that the nuclear industry and opponents of nuclear energy had got together and discussed this controversial issue openly. (Details in next issue.)

More Transparency In Nuclear Policy!

After the general election of July 18, a new of opposition parties led by Morihiro Hosokawa, the leader of the Japan New Party. The Coalition is made up of the Japan New Party, the Japan Renewal Party (formerly a faction of the LDP), New Party Sakigake (another former LDP faction), the Social Democratic Party of Japan (SDP), the Japan Democratic Socialist Party (DSP), the United Social Democratic Party (Shaminren), and the Komei Party.

Although it is the first time Japan has had a change of government in 38 years, no dramatic changes can be expected, since the coalition is largely made up of parties that broke away from the LDP.

The coalition parties have basically agreed to stick to the old LDP policies in areas where their opinions are divided. Nuclear energy is one such policy area.

However, we can and should urge the new Hosokawa administration to take a different political stance on nuclear energy. For instance, the new Secretary of the Science & Technology Agency is Mr. Satsuki Eda of the United Social Democratic Party. Eda has in the past been a close ally of grassroots movements and sympathetic to the anti-nuclear cause. However, now that the USDP has become part of the ruling coalition, it has naturally had to change its stance on some issues. Eda has said there will be no change in nuclear policy, and plutonium is a necessary part of Japan's future energy strategy.

On the other hand, he remains very critical of the former government's policy of nuclear secrecy and withholding information from the public. In every interview he has stressed the importance of transparency in nuclear policy, and the need to gain public acceptance before taking any political decisions.

Eda has met with various anti-nuclear groups and appears keen to exchange ideas with citizens' groups that represent different points of view from the government.

Dr. Takagi and members of CNIC met Eda on September 13, and proposed the following:

1) The organization that regulates nuclear power should be independent of the Atomic Energy Commission, the government and the nuclear industry.

2) The process of policy decision making should be disclosed to the public. When crucial decisions are to be made, the government should consult the public, conduct a full public inquiry, and make sure the issue is thoroughly and openly debated.

3) There should be greater freedom and transparency of information. An independent organization should be established to secure free access to information, especially information on the transport of nuclear fuels and figures on the stock of plutonium.

4) More effort should be made to research and develop renewable sources of energy, and to save energy.

5) An independent organization should be set up to deal with the disposal of nuclear waste as well as aged reactors and their decommissioning.

6) The opinions of people critical of Japan's plutonium policy should be sought and taken into account during the review of the current Long Term Nuclear Energy Plan which is now underway.

An opinion poll conducted by the Asahi Newspaper in Fukui prefecture, where Monju is sited and 12 nuclear power plants are currently in operation, showed that 65% of local residents are opposed to Japan's plutonium policy.

We all hope that these proposals are reflected in the new government's nuclear policy.

Aging of Tokai I Arouses Concern

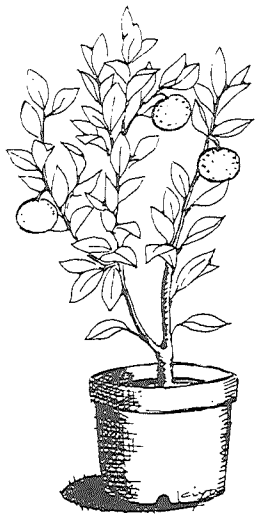
The Japan Atomic Power Co., Ltd. (JAPCO) recently established an in-house group to study decommissioning nuclear reactors at power plants. It is now twenty-seven years since the Tokai I plant (GCR, 166 MW) began commercial operation in 1966 as Japan's first nuclear power plant. The formation of the group represents the start of specific arrangements to prepare for decommissioning, which follows the 1988 initiation of a reserve fund for reactor decommissioning costs.

The Tokai I reactor has already been out of operation for over six months since the start of a periodical inspection in March 1993. The reason for the delay is that in April inspectors discovered cracks in as many as 19 places in the shafts of the plant's two turbines, and extended the inspection period to next July in order to replace the turbines. These cracks in the turbine shafts are cogent testimony to how severely deteriorated this reactor already is.

Since about 1981, 15 years after this reactor started operating commercially, there has been a conspicuous increase in problems. There were continuing troubles as soon as it began commercial operation, but after 1969, when the reactor started operating at 84% of its rated output instead of 100%, there was a dramatic fall off in problems. Since that time, Tokai I has never once been run at 100% output. But despite that, troubles have again begun to increase. Beginning in about 1987, after 20 years of commercial operation, there has been an increased number of years when the utilization factor ranged between 50% and 60%.

In October 1987 it was discovered that some of the steel covering of the electric wiring running through the ceiling of the pressure vessel had shed and fallen into the core, and in January 1989 it was again discovered that some of the same covering had fallen off. On multiple occasions - August 1990, December 1990, December 1992, and February 1992 - there arose problems when cracks and holes appeared in condenser tubing and caused seawater leaks. And the appearance of more cracks and the like show clearly that this reactor is in an advanced state of deterioration by aging.

The Tokai I plant was imported from England, where gas-cooled reactors are generally subjected to an overall inspection 25 years after beginning commercial operation, on the basis of which the authorities decide either to decommission reactors or extend their terms of operation. Many of these reactors have actually been decommissioned after about 25 years of operation, and in France almost all GCRs have been decommissioned after about 20 years. By contrast, Tokai I continues operating without an overall inspection, with authorities excusing themselves by saying, "We carefully perform the periodical inspection every year." But as shown above, Tokai I is badly aged and should be quickly decommissioned.



Japanese Citizens Speak Out on THORP

The second round of the public consultation on the justification of the Thermal Oxide Reprocessing Plant (THORP)started on August 4 and will continue until October 4.

Japan is THORP's major foreign investor and customer. Once THORP starts operation, the effects of its operation on the environment and the economy of the U.K. will mainly be due to Japanese contracts. Japanese citizens therefore have an obligation to say something about its operation.

Letter Sets Sold Rapidly

Japanese citizens' groups in Tokyo and Kanagawa began a campaign at the end of August. They have prepared a translated version of the invitation to the consultation from the U.K. Department of the Environment and the Ministry of Agriculture, Fisheries and Food, a sample letter to send to the consultation and how-to-write information. Although THORP is still not well known in Japan, the letter sets sold well when it was explained what was happening and what people could do about it, and that it was another way to stop the reprocessing plant currently under construction in Rokkashomura. Copies of the letters sent are now coming in and show how much the Japanese are concerned about the issue.

CNIC's Position

1) Akatsuki Maru's Pu Still Unused

The first issue CNIC would like to bring up at the consultation is Japan's 'plutonium utilization program.' This poses a huge threat on a global level because of the likely stockpiling of surplus plutonium if reprocessing goes ahead as planned. Japan already possesses a stockpile of about 5 tons of fissile plutonium, more than half of which is still in France. It is worth noting that the plutonium shipped by Akatsuki Maru from France to Japan at the beginning of the year was supposed to be urgently needed to fabricate fuel for the re-loading of the prototype fast breeder reactor Monju. But in fact, because there have been so many problems in fabricating the first loading fuel, the start up of Monju has already been delayed 3 times. The reactor is currently scheduled to go critical next spring. Hence the plutonium brought by Akatsuki Maru cannot be used and is destined to be stockpiled for at least 3 years.

All Japan's other plutonium utilization programs are far behind schedule as well. There is as yet no site for a demonstration fast breeder reactor, nor is there a consensus on the design to be used for one. It is planned to use 50 tons of plutonium as MOX fuel to be burned in light water reactors, but due to the high costs and safety concerns, the plan has not progressed beyond the irradiation tests conducted in two LWR reactors. Accordingly, if reprocessing goes ahead as scheduled, Japan's plutonium stockpile will grow to 50 to 80 tons by 2010.

This predicted huge stockpile is already a proliferation threat, and the North Korean government is using Japan's plutonium stockpile to justify its withdrawal from the NPT, a move which has aroused worldwide concern. Former Foreign Minister Muto has countered this threat by stating at a press conference held after the ASEAN meeting at the end of July, that "it is important that Japan possesses the will to build nuclear weapons."

The growing plutonium surplus, combined with such hardline attitudes, is sufficient to intensify regional instability and the risk of

proliferation.

2) Discharges More Than Rokkasho

The second issue we would like to address is THORP's effect on the environment. BNFL asserts that THORP's radioactive discharges will be kept 'as low as reasonably practicable' (ALARP), but when you compare the discharge figures as given by BNFL with other commercial reprocessing plants, for instance the JNFL (Japan Nuclear Fuel Ltd)'s figures for the Rokkashomura plant, it is clear that THORP's discharges are unreasonably high.

Except for H3, C14, Kr85 (aerial discharges), and H3, C14 (liquid discharges), the levels of nuclide discharges are far higher for THORP. At Rokkasho, all aerial emissions of particulates such as Sr90, Cs137 and Pu are designed to be practically nil, while there will be significant emissions of these nuclides at THORP. Even more controversial is the fact that long-lived radionuclides discharged into the sea could be far more hazardous than indicated by the British authorities' estimates based on simple radiological and empirical models. These radionuclides contribute to human exposure through various pathways including complex marine food chains, sea to land transfer and wave spray, and there are still no reliable computational models for assessing human exposure. One can easily see how difficult it is to make such assessments when THORP's estimated critical dose due to liquid discharges, 23 μSv, is compared to the corresponding estimate for Rokkasho, given by JNFL as 5 μSv. The difference by a factor as small as 4.6 (23/5) can hardly be explained as due to differences in environmental and population conditions between the two sites, in view of the far larger differences in the levels of liquid discharges. The total beta (except for H3) and alpha discharges of THORP are 34 and 0.14 TBq, respectively while those of Rokkasho are 0.7 and 0.0098 (factors of 48.6 and 14.4).

THORP's large radioactive discharges pose serious doubts as to whether BNFL has really adopted the ALARP principle. HMIP and MAFF should conduct a full investigation into this question and see whether the doses to population have been estimated on a conservative basis with special attention to the discharges of Rokkasho, Tokai, and Wackersdorf reprocessing plants.

3) Wastes Will Stay in the U.K.

Lastly, we would like to point out that Japan has no plans to receive the low and intermediate level waste resulting from reprocessing at THORP. The site for storing LLW, which started operation in December, 1992, is only to be used for the waste already accumulated at nuclear power plants currently in operation in Japan. A HLW storage facility is now under construction and scheduled to be completed by the beginning of 1995 when the French would return HLW to Japan by sea. However, this site has a capacity of only 1440 canisters, whereas the projected amount of vitrified HLW to be shipped back from Europe is over 5,000 canisters, estimate from the total tonnage of spent nuclear fuel shipped. Besides, there are no plans to accept low and intermediate level waste, and if BNFL decides to adopt the 'substitution' system, there is nowhere Japan can store the additional HLW that would be sent back. The waste problem would be the biggest obstacle to reprocessing, since there is no final repository nor temporary storage site for most of the waste. Before commissioning THORP, BNFL should make a realistic analysis of waste storage capacity in Japan and calculate how much waste is likely to stay in the U.K.

4) Full Public Inquiry Necessary

CNIC believes that a full public inquiry should be held once again to reinvestigate all the issues involved in reprocessing and THORP, and the Japanese should be invited to take part in it as well.

Japan EXIM Bank to Fund Nuclear Project in Indonesia

On July 29 the Ex-Im Bank of Japan decided to extend a loan of 900 million yen to the construction consultant company, NEWJEC, that has been conducting a feasibility study for the construction of a nuclear power station in Indonesia. The Muria Anti-Nuclear Group of Japan issued a press release protesting the decision on the same day. This group has been asking the Bank not to provide the loan.

NEWJEC is an affiliate of Kansai Electric Power Co. It drew up a contract with BATAN (National Atomic Energy Agency) in August, 1991 to conduct a nuclear power feasibility study, and in November that year it embarked on the study, which is supposed to last for four and a half years. The first stage of the study was completed in November, 1992 and the second stage, that of identifying suitable sites,is now underway. The third stage will be to conduct a final evaluation for the building of the plant. The proposed site is located on the Muria Peninsula in Java. The total cost of the feasibility study is estimated to be 1.5 billion yen.

In March, 1990 the Indonesian government asked the Japanese government to contribute ODA (Official Development Aid) towards this feasibility study. In June that year the Japanese government turned down the request after studying the electricity supply and demand situation and other factors in Indonesia; but the loan from the Ex-Im Bank has now become an alternative to ODA funding. The Indonesian government specifically wanted a loan from the Ex-Im Bank to give the impression that the study had the support of the Japanese government.

Ex-Im Bank officials have stated, "...both the Ministries of Finance and International Trade and Industry followed the necessary procedures, and there were no problems, so we decided to provide the loan." Actually these procedures had been completed long before, yet it took the Bank a long time to come to its final decision - due to the continuous protests carried out by Muria Anti-Nuclear Group and others (see NIT No.34 Anti-Nuke Who's Who). The Bank also knew the loan was controversial. Evidently what made the Bank suddenly decide to go ahead with the loan in July was the prospect of a change in government policies following the shift of power in Japan's Diet.

The Ex-Im Bank repeatedly announced at meetings with anti-nuclear citizens' groups and in the Diet that "the feasibility study and the actual construction are two separate things." It also claimed that "it has not been decided if Indonesia will build nuclear power stations or not," and that "the feasibility study includes looking into other possibilities." However, Indonesia has decided in principle to proceed with construction of a total 7,000 MW of nuclear plants by 2015 and is preparing for the purchase of the nuclear fuel.

Many companies from different countries attempted to win the contract for the feasibility study, because it was believed that a manufacturer from the country that won the feasibility study contract would also win the construction contract for the first reactor. So what the bank is saying is obviously false. The bank had to use this excuse, but in doing so it has caught itself in the dilemma of not being able to loan funds for the actual construction phase.

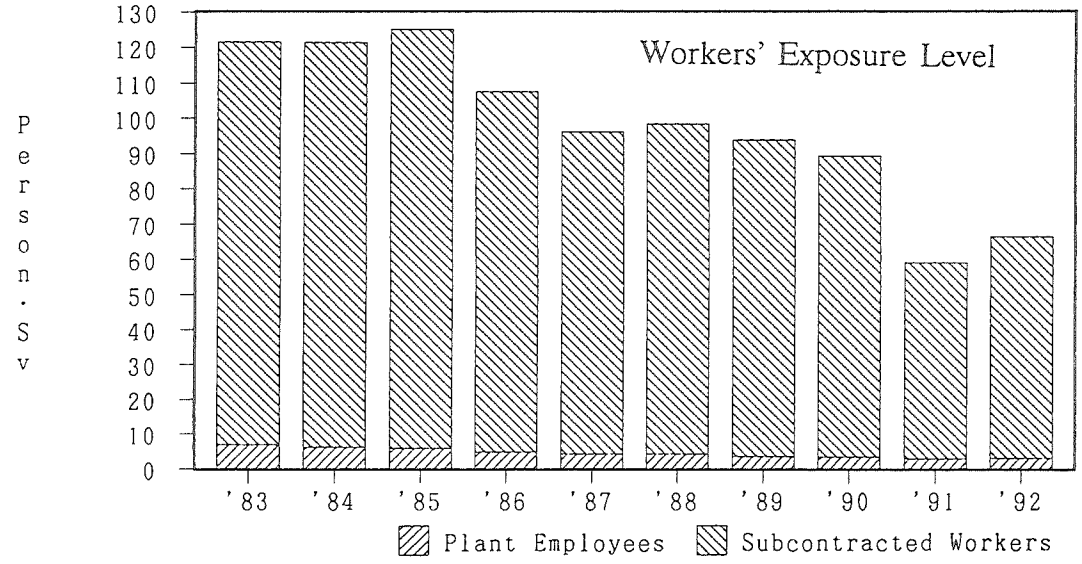
Anti-nuclear citizens' groups such as the Muria Anti-Nuclear Group will now try to stop the export of the plant. They will put pressure on NEWJEC not to make use of the feasibility study to justify construction.

Workers' Exposure and Waste Data

Data on workers' exposure for the fiscal year 1992 has been published by the Natural Resources and Energy Agency for commercial reactors, and by the Science & Technology Agency for research reactors and nuclear fuel cycle facilities.

There are a total 11,975 direct employees of utility companies, and 66,600 subcontracted workers at all the facilities combined. Direct employees were exposed to a total 4.00 person Sv and subcontracted workers to 65.49 person Sv, making the average exposure level per person 0.3 mmSv for the former and 1.0 mmSv for the latter. The total exposure dose exceeded last year's level by 12%. But the increase is seen only in subcontracted workers, who received 94% of the total dose. At nuclear power plants alone, this level of concentration rises to 96%.

Workers' exposure increased drastically in the 1970s, but decreased in the '80s, when it became a social issue, and working conditions were improved under pressure from workers. Another factor was that the utilities simplified the regular inspection system to promote economic efficiency and reduced the number of regular inspections, thereby reducing the severity of exposure to workers. Nevertheless, about 100 workers were exposed to over 20 mmSv, and some workers were close to the legally permitted level of 50 mmSv.



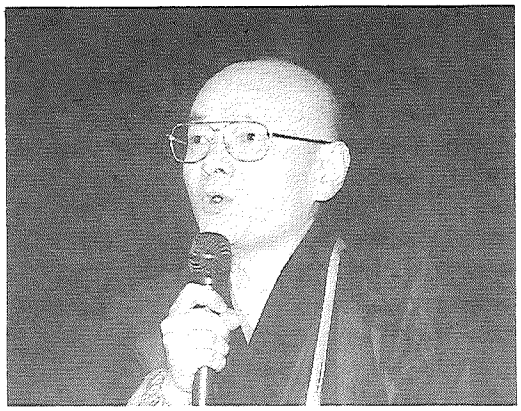
Storage of Low-Level Solid Waste (as of March, 1993) (1 drum=200 ℓ)

	Storage Amount		Capacity	
Nuclear Power Plant Site	524,739	drums	799,600	drums
Rokkasho Disposal Site	6,080	drums	200,000	drums

Storage of High-Level Liquid Waste (as of March 1993)

Stored in tanks at Tokai Reprocessing Plant	516 m^3 (4.6×10^9 GBq)

ANTI-NUKE WHO'S WHO



Tetsuen Nakajima

Activists from all Japan's religious organizations gathered on July 6 and 7 at Tsuruga in Fukui prefecture to form a 'Group of Ministers of Religion to Reconsider Japanese Nuclear Policy.'

Tetsuen Nakajima from Obama, Fukui prefecture, made the keynote speech at the group's inauguration ceremony. Himself a Buddhist monk, Nakajima showed delegates a photograph of a military procession of Buddhist monks, taken in Fukui during World War II, and asked "Aren't we also unaware that we are being made to march somewhere?"

For ministers to be concerned with the nuclear issue means reconsidering their own religion. 'The Group of Ministers of Religion' was organized out of a sense of deep regret that they had given in to political power and cooperated in the war, and in the resolve that they would never help to kill people again.

Nakajima was born and brought up at the famous temple Myotsuji, which is situated on a beautiful stretch of coastline and surrounded by cultural sites. He is now the abbot of the temple. He thinks the Buddha's saying "All living beings should be happy," are the most precious words there are. He acts out of a sense of duty, as a religious person who esteems not only the human race but all living beings, and also out of his sensitivity as a poet. He first started to collect money to aid A-bomb survivors by going on a 'takuhatsu' - a Buddhist practice in which monks visit houses, recite sutras, and ask for alms. It is now 25 years since he began this monthly 'takuhatsu' in 1968. He contributes all the alms he receives to 'The Fukui Prefecture A-Bomb Survivors Association.' Last year's contribution amounted to 230,000 yen.

While going on takuhatsu Nakajima distributes a small newsletter entitled Reisei ("The Sound of Bells"). As a Shingon Buddhist, he shakes a small handbell as he chants the sutras. In every issue of Reisei Nakajima appeals for peace. He first penned a protest against nuclear power plants in 1969 when the city assembly tried to invite a nuclear power plant to Obama. This marked the beginning of his anti-nuclear activities. Fortunately, due to the strong protests of local residents, the plant was rejected. But there are already 14 nuclear power plants, and the FBR 'Monju' near Obama in the district of Wakasa. And there are plans to build even more reactors. Nakajima vows to continue his activities energetically, saying "The nuclear civilization of today forces discrimination and sacrifices on minorities and the poor, including those living in remote areas like Wakasa and Fukushima, native peoples working in uranium mines in the U.S., Australia, and South Africa, and the Pacific Islanders who may be forced to have radioactive waste dumped into their sea. People in the advanced countries and the big cities should recognize that their peaceful and prosperous lives are only made possible through the sacrifice of these nuclear victims. Above all, both the aggressors and the victims are depriving those yet to be born of their future in exchange for short-sighted profit and effortless prosperity. I believe the only way we can overcome this crisis of the nuclear age is to rekindle Buddha's 'light of transparent mercy' in our hearts."

NEWS WATCH

Tomari N-Plant Continued Operation Despite Big Earthquake

One of the most severe earthquakes of this century occurred on July 12, off the southwestern coast of Hokkaido, and Okushiri Island, which was near the epicenter, was struck a crushing blow. Seibyo Town was totally destroyed by the resultant tidal wave and fire. If the epicenter had been slightly displaced, Hokkaido Electric Power Co's Tomari nuclear power station (two PWRs of 579 MW each) could not have escaped damage. Yet despite the critical conditions, Tomari did not suspend the operation of its two reactors and continued operating right through the quake, claiming the seismic intensity was not sufficient to warrant suspension. In the event the plant escaped harm, but in view of the warnings of a huge tidal wave being put out at the time, the decision to continue operating the plant under such circumstances was highly questionable.

The island had once invited a reprocessing plant to its shores. Fortunately the plan never materialized, and we were spared a global-scale disaster. The hydraulic power plant on the island, however, was completely swept away by the tidal wave.

In Iwanai-cho, adjacent to Tomari, where the nuclear power station is located, the quake ruptured the water pipes of the town office, while a wireless system installed for disaster prevention was submerged in water, and rendered unusable; this led to delays in urging the townspeople to evacuate. The details of the event have been kept confidential, but evidently disaster prevention systems cannot be relied on in the case of a severe earthquake.

Radiation-Contaminated Scrap Concrete to be Buried

Kansai Electric Power Co. is working on a plan to replace the steam generators of several reactors, including Mihama 2 (PWR, 500 MW), which suffered a tube rupture in February 1991. The company on August 30 notified Fukui Prefecture and the local towns concerned of their plan to bury the scrap concrete, which would result from the SG replacement operation, on the premises of the power plant. This plan was promoted in response to a Ministry of International Trade and Industry announcement on August 12 that scrap concrete could be treated in a very simplified procedure separately from the usual radioactive waste. While the usual low level radioactive waste must be buried in a purpose-built concrete pit after being solidified in a metal container, the concrete scrap can be dumped directly underground without special treatment. The government's final approval will be given by the Minister for International Trade and Industry after double-checking with the Nuclear Commission. However, since the NSC has already indicated its intention of approving the plan, it is not considered likely to be long before final approval is granted.

In the SG replacement operation an 8

square meter hole will be drilled through the outer concrete wall of the reactor container. In the case of Mihama 2, this will result in about 135 tons of scrap concrete, which will be cut into small blocks and then buried. According to the plan, a 1.4 meter-deep hole will be dug to bury the blocks, and this will be covered with a 50 cm layer of dirt. Scrap concrete from the inner wall of the container will be stored together with the replaced SG in the storage facility since "the possibility of its being contaminated with radioactivity cannot be denied."

The new concrete waste disposal plan has aroused concern among people living near nuclear plants because it could cause groundwater contamination.

South Pacific Nations Remain Concerned about Japanese Pu Shipments

The 24th South Pacific Forum held in Nauru on August 10-11 adopted a communique which showed the Pacific nations remain seriously concerned over Japanese plans to ship plutonium from France, and want it to stop doing so. According to AFP, a spokesperson said that SPF members would raise their concerns with Japan at a post-forum dialogue and would urge Japan to "suspend permanently" further shipments.

Japan went ahead with the shipment of plutonium despite worldwide criticism, and it passed through the economic zones of Vanuatu, the Solomon Islands, and Nauru, and close to the Marshall islands and the Federated States of Micronesia. The shipment took place during the most dangerous season of the year, the Pacific cyclone season, and two big cyclones actually crossed the path of the Akatsuki Maru around that time.

However, the Nuclear Industry News reported that the forum appreciated Japanese information on the past shipment and a Science & Technology Agency official "received the impression that the member countries have sympathized with the shipment to some extent because they had received more information from the Japanese government."

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NUKE INFO TOKYO is a bi-monthly newsletter which aims to provide foreign friends with up-to-date information on the Japanese nuclear industry, as well as on the movements against this industry in Japan. Please write to us for a subscription (subscription rate: supporting subscriber $40/year or ¥5,000/year, subscriber $20/year or ¥3,000/year). The subscription fee should be remitted from a post office to our post office account No:Tokyo 6-185799, HANGENPATU-NEWS by postal money order. We would also appreciate receiving information and newsletters from groups abroad in exchange for this newsletter.

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