
NUKE INFO TOKYO

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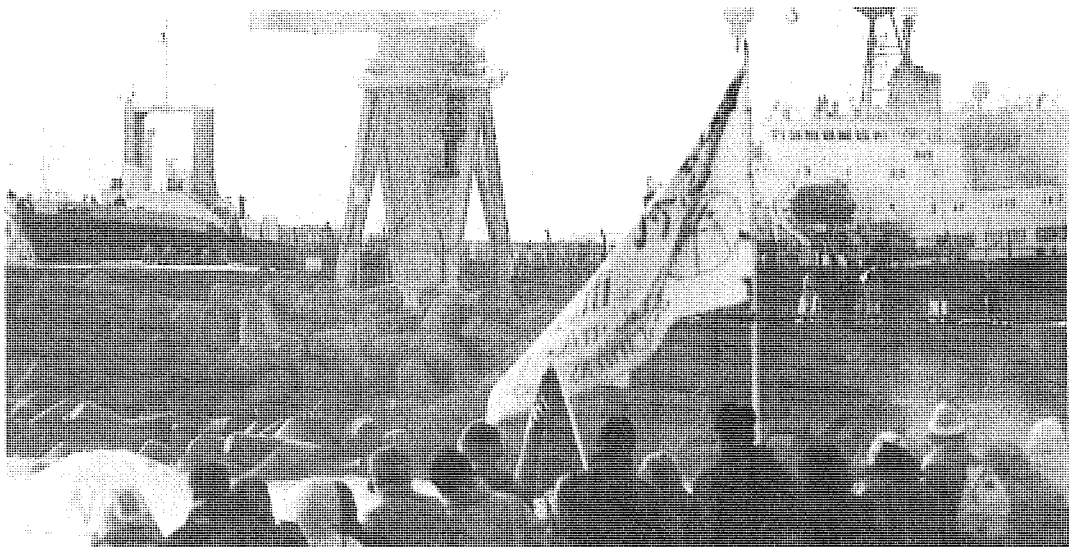
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Akatsuki-Maru Arrives Amidst Protest & Concern



(Photo by S. Arakawa)

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The Japanese plutonium carrier Akatsuki-Maru arrived at the Japan Atomic Power Co.'s Tokai Port in Ibaraki Prefecture (120 km northeast of Tokyo) at 7:08 am, January 5. The vessel was welcomed by 70 to 100 coastguard ships and dinghies, 1,100 policemen, about 350 reporters, and some 1,000 citizens and activists protesting against the shipment.

The protesters gathered at the port of Tokai during the night, and watched the ship entering the harbor at dawn, as the

sun started rising. They held up banners and yelled protests while several anti-nuclear groups, including Greenpeace, staged demonstrations from 5 boats out on the sea. Protesters marched to the PNC office, then on to see the trucks transporting the containers to the storage site, where a big rally was held. Jacky Bonnemains of Robin des Bois came from France and appealed at the rally, together with members from Greenpeace International, including Barbara van der Hoeck who was on the Smit New York chasing Akatsuki-Maru.



(Jacky Bonnemains at Tokai)

Anti-plutonium rallies were held across the country. In front of the Science & Technology Agency, a total of about 250 people staged a sit-in from January 4 to 6, and Dr. Takagi of the Citizens' Nuclear Information Center combined this with a 3-day hunger strike. Takagi declared that plutonium is nothing but a negative legacy of the Cold War, and that we could not place our future in its hands. He then announced that he would go on a hunger strike to demonstrate to the Japanese government his strong desire that it change its plutonium policy.

A hunger strike was also staged in Oita and sit-ins at Kagoshima and Hiroshima, while leaflets were distributed and rallies held in Hokkaido, Nagano, Osaka, Saitama, Kanagawa, and Kumamoto.

The government held a press conference, and the Director-General of the Science & Technology Agency said that the arrival of the Akatsuki-Maru on schedule proved that plutonium could be transported safely. He said the government would not change its basic nuclear policy of using plutonium as

a fuel, but added that the Japanese Atomic Energy Commission was now reviewing its current long-term policy on nuclear energy.

Chief Cabinet Secretary Yohei Kono indicated that the government's policy of strictly controlling information may also be reviewed in the future.

Takao Ishiwatari, head of the PNC, said he was relieved that the freighter had arrived safely at Tokai. However, he was apparently very disturbed that the shipment had raised such an international furor, and said, 'We didn't make enough effort to gain the understanding of other countries as they had not raised too much objection when we shipped a smaller amount of plutonium in 1984. We have only ourselves to blame for raising unnecessary fears among the countries en route of the shipment.'

According to the Kyodo News Agency, the route itself was only decided at the end of October. A Kyodo article dated Jan. 6 says the Japanese government had insisted on sending the shipment through the Panama Canal, but this option was finally rejected by the USA. Consequently, the route chosen was the longest one, around the Cape of Good Hope, around Australia, through the Tasman Seas, and through the Pacific island countries, a 32,000 km voyage.

Although the Japanese government promised in principle not to enter any nation's exclusive economic zone, the Akatsuki-Maru did, in fact, infringe the EEZs of many Pacific countries, including New Caledonia, Vanuatu, the Solomon Islands, and Nauru.

Vanuatu's ruling political party, the Vanuaaku Pati, issued a statement on Dec. 22 condemning the Japanese government for allowing the Akatsuki-Maru to sail into Vanuatu waters on Dec. 21. 'This unwelcome development represents another example of disrespect for the unequivocally expressed concerns of Pacific States and peoples for their safety should the vessel sink or spring a leak.' The FLNSK party of New Caledonia and the governments of the Solomon Islands, the Commonwealth of

the Northern Mariana Islands & Guam, and the Republic of Nauru all expressed concern and opposition as the ship sailed through their economical zones and ignored their protests.

Immediately after the Akatsuki-Maru had docked safely at Tokai, the Foreign Ministry of Japan sent letters through local Japanese ambassadors to the governments of the countries en route. The letter, a copy of which we received from Nauru, was dated Jan. 6 and reports the safe arrival of the Akatsuki-Maru, 'successfully fulfilling the mission of the shipment of the reprocessed plutonium from Europe without any accident.' The letter expresses 'the gratitude and appreciation of my home government for the understanding that your government has accorded to this important task.' And it goes on to say, 'This success augurs well for the future development in the use of this substance by mankind.'

The letter shows no sign of sympathy for the concern the Japanese government has actually caused the countries en route of the shipment, but arrogantly takes pride in the fact there was no accident while forcing the Pacific nations to accept future shipments as well.

The President of Nauru immediately sent a reply through ambassador Hori of Fiji. 'I would like to take this opportunity to congratulate the government of Japan for the successful completion of the shipment of the plutonium from Europe without any accident or mishap which is a great relief. However, notwithstanding the success of this particular shipment I would ask you to convey also to the government of Japan the continued strong concern of the people and government of Nauru over any future shipments through the Pacific region,' and 'respectfully and humbly requests the government of Japan to stop any such future shipment through the Pacific region in the interests of our people and our future generations.'

Pressure from foreign governments was the crucial factor in making the shipment

such a major issue, and the decision to go ahead with the Akatsuki-Maru shipment despite international protests had made the world wonder where Japan is heading in its plutonium utilization program. It has really put the Japanese government in a difficult position and forced it to reconsider its nuclear policy.

However, though the government's plutonium policy is currently in disarray, it is not necessarily being adapted to take account of worldwide trends and realities. Regarding the disclosure of information, for instance, although a press center was opened for the media to watch the Akatsuki-Maru coming into port and the cargo being unloaded, the PNC spokesperson refused to the bitter end to state the exact time or place of its arrival. The STA also disclosed data on the safety of the casks on Jan. 21, but more than 120 pages of the 580-page report had been deleted 'because of trade confidentiality.'

Now that Japan's nuclear policy has been shaken up by foreign criticism of this first shipment, we hope the tremors do not die down and it jolts the government into a serious reassessment of its plan to utilize plutonium as an energy source, when it has already been abandoned throughout the world for safety and economic reasons.



Dr. Takagi in front of the STA

IMO Meeting Voices Strong Concern Over Japan's Plutonium Shipment But No Resolution Adopted

Jinzaburo Takagi

The 61st Maritime Safety Committee (MSC) of the International Maritime Organization (IMO) met from December 7 to 11 in London. As a consultant to Greenpeace which is an official observer of the committee, I attended the Joint IAEA/IMO/[UNEP] Working Group on the Safe Transport of Irradiated Nuclear Fuel (INF) and Other Nuclear Materials by Sea. The working group drew particular attention because the Akatsuki-maru was then on its way to Japan carrying 1.5 tons of plutonium from France. UNEP (UN Environment Program) was attending in response to the concerns of regional bodies such as the Caribbean Community and South Pacific Forum.

Many nations including Iceland, Brazil, Solomon Islands, Papua New Guinea, North Korea and Austria voiced strong concern about Japan's plutonium shipments and questioned the adequacy of the current IAEA packaging standards. Many of them demanded the suspension of the nuclear transports in question in line with the "precautionary principle" until the review of the current controversial IAEA safety standards had been completed.

Japan, U.K., France and some other nuclear states asserted that there had been no serious nuclear transport accidents and there were no dangers involved in the transport of nuclear materials, without providing a shred of data. When many nations complained that they were being

forced to accept the risks of nuclear shipments, the nuclear states simply denied that there was any real risk. The pro-nuclear states arranged the appointment of the working group chairman who has strong past and present ties to the nuclear industry, and did all they could to prevent fair debate, which enabled them to block proposals for a resolution to stop the nuclear shipments.

Greenpeace spelled out in detail the inadequacy of the current IAEA packaging standards for thermal, immersion and drop tests. I pointed out that although Japan's Science and Technology Agency had actually tested the plutonium transport casks far beyond the IAEA standards for immersion, and claimed testing had proved that the casks could withstand water pressure to depths of 10,000 meters, a previously secret report on the immersion test which has now become public in Japanese gives us increased concern, for it reveals that the test was actually conducted for only 20 minutes, during which serious deformation of the casks was found to occur. Many experts whose opinions we asked concluded that, on the basis of the reported test results, the casks would fail if immersed to any great ocean depths. I urged the Japanese delegations to submit the report to the working group for review by international experts and they agreed to do so.

Rokkasho Reprocessing Plant Construction About to Start Amid Uncertainty

At the time of this writing a big question mark still hangs over the future of THORP (Thermal Oxide Reprocessing Plant) at Sellafield, U.K.. One of the central environmental issues for THORP is its enormous discharge of radioactive krypton gas because exposure to krypton causes skin cancers. In addition, a recent study by German scientists suggests that krypton gas could have serious adverse climatic effects due to the ionization of air molecules by krypton radiation.

Tritium emissions from reprocessing plants are also causing renewed concern since recent Canadian reports link tritium emissions from nuclear reactors with birth defects and possibly with childhood leukemia.

Amidst these concerns, the Japanese government recently licensed JNFL (Japan Nuclear Fuel, Limited) to construct a 800t/y reprocessing plant at Rokkasho-mura, Aomori Prefecture. Surprisingly, the licensing safety reviews conducted first by the Science and Technology Agency and then by the Nuclear Safety Commission have utterly neglected the recent concern over krypton and tritium emissions, although all the krypton (3.3×10^{17} Bq/y) and most of the tritium (2×10^{16} Bq/y) contained in the spent fuel are discharged from the plant into the environment during the reprocessing process.

According to the timetable submitted by the company, construction work is scheduled to start in March this year, the storage of spent fuel in 1996 and commercial operation in 2000.

Despite the government "go ahead" and

the announcement that construction would start in March, however, the future of the Rokkasho Reprocessing Plant is getting more and more uncertain because of the strong international concern about Japan's plutonium program as well as the growing reluctance of utilities to get involved in fast breeder reactor development and reprocessing.

In the evening edition of the Mainichi Shimbun on January 5, the very day on which the Akatsuki-maru arrived at Tokai port, it was reported, based on information from Science and Technology Agency (STA) sources, that the government was about to begin a thorough review of the current plutonium program with the intention of scaling down its plutonium supply and demand plan. The AEC (Atomic Energy Commission) in its current Long-Term Program for Development and Utilization of Nuclear Energy, estimates that plutonium supply and demand will stabilize at around 80-90 tons (fissile plutonium) by the year 2010.

However, actual demand will most likely fall far short of the estimate, partly because of the delay in fast breeder reactor development and partly because of the expected poor economy of MOX use in LWRs (light water reactors). Although the prototype fast breeder reactor Monju is about to go critical this October a year behind schedule, the fast breeder development program beyond Monju remains quite uncertain. The AEC's long term program suggests that construction of the next fast breeder, a 600 MW class demonstration reactor, should start by the

end of the century, but a front page Nikkei article on Jan. 6 reports that AEC is now thinking of putting off construction of the demonstration breeder at least to 2005 and probably further, in view of the international trend towards abandoning FBRs, the rise in construction costs and the difficulty of finding a construction site.

The MOX burning program in LWRs has its own problems. Now that the cost of fabricating MOX fuel apparently exceeds that of low-enriched uranium fuel with an equivalent fuel value, Japanese utilities are becoming very reluctant to promote the MOX utilization program as planned by the AEC, which envisages consumption of as much as 50 tons of plutonium (fissile) in LWRs in the form of MOX by the year 2010. This AEC program is almost certain to be substantially delayed.

Under these circumstances, Japan will have a huge surplus of plutonium if the supply, i.e., overseas and domestic reprocessing, proceeds as planned. We at

CNIC already pointed out this possibility two years ago. At that time, however, our view did not get much attention. Only now, two years later, everybody is talking of a huge surplus. The Dec. 6 Kyodo News wire reported that even the STA is now thinking of suspending reprocessing at least partially for fear of a plutonium surplus which would come in for harsh international criticism. According to the report, the STA has hinted it will store spent nuclear fuel intermediately instead of immediately reprocessing it. Intermediate storage either in expanded water-cooled pools at nuclear plant sites or with special dry storage casks is now under consideration. Under the circumstances, the report suggests, the operation of the Rokkasho plant is likely to be delayed or at least the capacity factor of the plant will be substantially reduced.

All in all, it is now a good time for Japan to question the wisdom of its reprocessing policy.

Significant Incidents at Nuclear Plants

(Jan. - Dec. 1991)

Date	Plant	Short description of event
Jan. 18	Ohi 1	Damage to steam generator tubes found during inspection.
Jan. 31	Takahama 1	Damage to steam generator tubes found during inspection.
Feb. 9	Mihama 2	Double-ended break of steam generator tube, reactor scram, ECCS kicked in.
Feb. 14	Tokai Reproc. Plant	Power loss in part of the plant, one worker electrocuted.
Feb. 21	Kashiwazaki 2	Reactor scram due to turbine failure.
Feb. 22	Onagawa 1	Steam leak from coolant purification system.
Feb. 23	JAERI Tokai	Power loss at Radwaste Safety Test Facility, radiation release inside the facility.
Mar. 20	Takahama 2	Inadequate fitting of anti-vibration bars of SG tubes found, reactor manually stopped.

Date	Plant	Short description of event
Mar. 27	Tokai 1	Trouble with fuel replacing system, reactor manually stopped.
Mar. 28	Mihama 3	Damage to steam generator tubes found during inspection.
Mar. 28	Takahama 3	Damage to steam generator tubes found during inspection.
Apr. 5	Hamaoka 3	Reactor scram due to feed water pump failure.
Apr. 17	Ohi 2	Metal fitting of control rod guide tube detached and found at bottom of reactor vessel during inspection.
May 2	Tomari 1	Cracks in 309 low-pressure turbine stationary blades found during inspection.
May 10	Tokai 1	Reactor scram due to control rod drop during fuel replacement.
May 15	Sendai 1	Damage to steam generator tubes found during inspection.
May 20	Mihama 3	Reactor start up suspended due to primary coolant pump vibration.
May 29	PNC Tokai	Two workers exposed to plutonium.
Jun. 13	Tokai 1	Water leakage from heat exchanger high pressure heater.
Jun. 19	Takahama 2	Damage to steam generator tubes found during inspection.
Jul. 18	Sendai 1	Reactor manually stopped due to neutron detector failure.
Jul. 23	JRR-2	Reactor scram due to main deuterium pump failure.
Jul. 23	Tsuruga 1	Reactor manually stopped due to steam leakage during test operation.
Jul. 23	Ohi 2	Anomaly in secondary coolant flow control valve.
Aug. 2	Tomari 2	Cracks in low pressure turbine stationary blades found during inspection.
Aug. 28	Onagawa 1	Power drop due to coolant flow control valve malfunction.
Aug. 28	Tokai Reproc. Plant	Radioactive water leakage from sea discharge pipes.
Sept. 6	Mihama 1	Steam generator water level dropped due to introduction of foreign object into main feed water bypass control valve; reactor scrammed.
Oct. 15	Sendai 2	Damage to steam generator tubes found during inspection.
Oct. 30	Fugen	Short circuit in power supply board for ECCS.
Nov. 1	Fukushima I-1	Reactor manually stopped due to secondary coolant leakage.
Nov. 2	Fugen	Fuel replacing system temporarily stopped during fuel replacement.
Nov. 26	Fukushima I-3	Cable fire in turbine building.
Dec. 6	Ohi 4	Hydrogen burnt during hydrogen discharge test.

Anti-Nuke Groups Active Around Japan

Nuclear Fuel Transport Monitoring Group

The Nuclear Fuel Transport Monitoring Group was started in 1989 for the purpose of disclosing how nuclear fuel was transported in Japan and informing the public of the facts. The first thing we intended to do was to follow nuclear fuel transports, and for doing this we needed funds for transportation - fuel, freeway charges, and so on. So we started to ask friends and colleagues for donations.

We now receive about 1 million yen (about \$7,000) in donations every year which has enabled us to follow nuclear fuel transports about 17 times so far. Now a number of groups have sprung up along the routes where the fuel is transported, covering their own communities and their vicinities. They not only keep an eye on fuel transport, but have also become active in the anti-nuclear movement in general. As we predicted, nuclear fuel transport has not only delivered fuel, but also sowed anti-nuclear sentiment along the way.

The Japanese government has tried to keep the whole transport operation secret but our efforts to follow transports has revealed the actual situation and encouraged people along the routes to get involved and become active "watchers."

We found out that the transported fuel was in various forms, mostly natural uranium and it is usually shipped to Ohi berth in Tokyo Bay from where it is transported by truck to different sites in Japan. The fuel comes in almost every week on North American or European cargo ships with other goods, sometimes



Group Monitoring Radioactivity of a Truck

gunpowder or explosives. This shows how careless the official attitude towards the transport of nuclear fuel is.

We also found out that enriched uranium is transported from the enrichment plant in Ningyo-toge, Okayama Prefecture all the way to the conversion plant in Tokai-mura, Ibaraki Prefecture many times a year. We then discovered that depleted uranium was transported in the dangerous form of hexafluoride. A lot of information has been gathered by people along the transport route.

In April last year the Japanese government gave notice it would strengthen its policy of secrecy in the name of physical protection of nuclear materials. Our group is now preparing a "Nuclear Fuel Transport White Paper" to oppose government policy. We think it is unrealistic to keep fuel transport secret in a small country like Japan. In other words, if it really demands such secrecy then nuclear power itself may not be suitable in Japan after all.

Please support us by donating funds to our postal bank account, Yokohama 7-10603, account name "Okkake Kikin" through your nearest post office.

Hideaki Takemura

NEWS WATCH

LLW Disposal Facility Starts Operation

On December 8, 1992 the first batch of drums containing radioactive waste was delivered to the Low-Level Radwaste Burial Facility in Rokkasho, Aomori Prefecture. When the Seiei-maru, a special transporting ship, docked at the port of Mutsu-Ogawara about 200 people including farmers and labor union members were waiting to protest against the facility starting operation. But the drums in their containers were loaded on to a convoy of trucks which passed in front of the protesters on its way to Rokkasho.

The low level radioactive wastes to be buried are, for the time being, those homogeneously solidified in drums, but Japan Nuclear Fuel Ltd. which operates the facility stated on the same day that the company would accept any kind of low level waste in the future.

Radioactivity Inspection of Imported Foods to be Relaxed

The Ministry of Health and Welfare, which has continued to inspect the radioactivity levels of imported foodstuffs since the Chernobyl accident, relaxed its inspection policy on January 15. All imported reindeer meat, wild herbs and products processed from wild herbs, which

have registered high levels of radioactivity will continue to be inspected, while spices, beef extracts and honey are now to be inspected on a random basis. Skimmed milk, various kinds of pasta and nuts have been removed from the inspection list.

The maximum permitted level of radioactivity is 370 Bq per one kilogram or one liter for the total of cesium 134 and 137. Since December 1986, eight months after the Chernobyl accident, imported hazelnuts, reindeer meat and spices exceeding the permitted levels have been detected quite frequently. The reason for relaxing inspections is said to be that few foodstuffs have been found to exceed the permitted limits since March 1991.

Workers Exposed to Cobalt 60 Radiation

Four workers at the Tokyo Metropolitan Isotope Research Institute were exposed to a maximum 100 milli sieverts of radioactivity on December 18 due to human error. During inspection of a crane in a cobalt 60 irradiation room, the lid of a cobalt 60 container was opened for one minute by mistake. The irradiated workers are employees of the crane maintenance company. A staff member of the institute warned them of possible dangers before they began working, but no staff member was present during the operation. The irradiated workers are said not to have shown any symptoms of acute radiation injury.

Nuclear Budget Ups PA Funding

The national budget for FY1993 (April 1993 - March 1994) has been approved. The total budget for nuclear power is ¥443,585,000,000 a 4.1 percent increase over the previous year. The main item in this year's budget is still more liberal subsidies for localities with new plants or additions to their existing plants, as well as "public acceptance," or PA campaigns. Apparently a special PA effort will be made to promote understanding for the government's plutonium utilization plan. There is also a pitch for assisting the former Soviet republics and eastern Europe with nuclear power safety.

Plan for a FBR Spent Fuel Reprocessing Plant Gets Underway

Scheduled criticality for the prototype fast breeder reactor Monju (280MW) has

been delayed, with the latest plan calling for criticality this October. This is because so many defective products have appeared during the manufacture of the reactor's fuel, which has put fuel fabrication behind schedule. Although 10 core fuel shipments are planned, there have only been four thus far.

A planned reprocessing facility for spent fuel from Monju was approved at a safety screening by the Science and Technology Agency on December 15, after which a second check is to be made by the Nuclear Safety Commission. The facility, called RETF for "Recycle Equipment Test Facility," reportedly has a maximum reprocessing capacity of 1.3 tons of core fuel annually, and a maximum five tons annually for blanket fuel. It is to be built as an auxiliary facility to the LWR fuel reprocessing plant (capacity: 210 tons HM/year) operated by the Power Reactor and Nuclear Fuel Development Corporation (PNC) at Tokai-mura in Ibaraki Prefecture.

The facility's intentionally ambiguous name and the lack of information released to the media about its screening are typical of the secrecy under which the project is proceeding.

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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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