

NUKE INFO TOKYO

Jan./Feb.

1999

No. 69



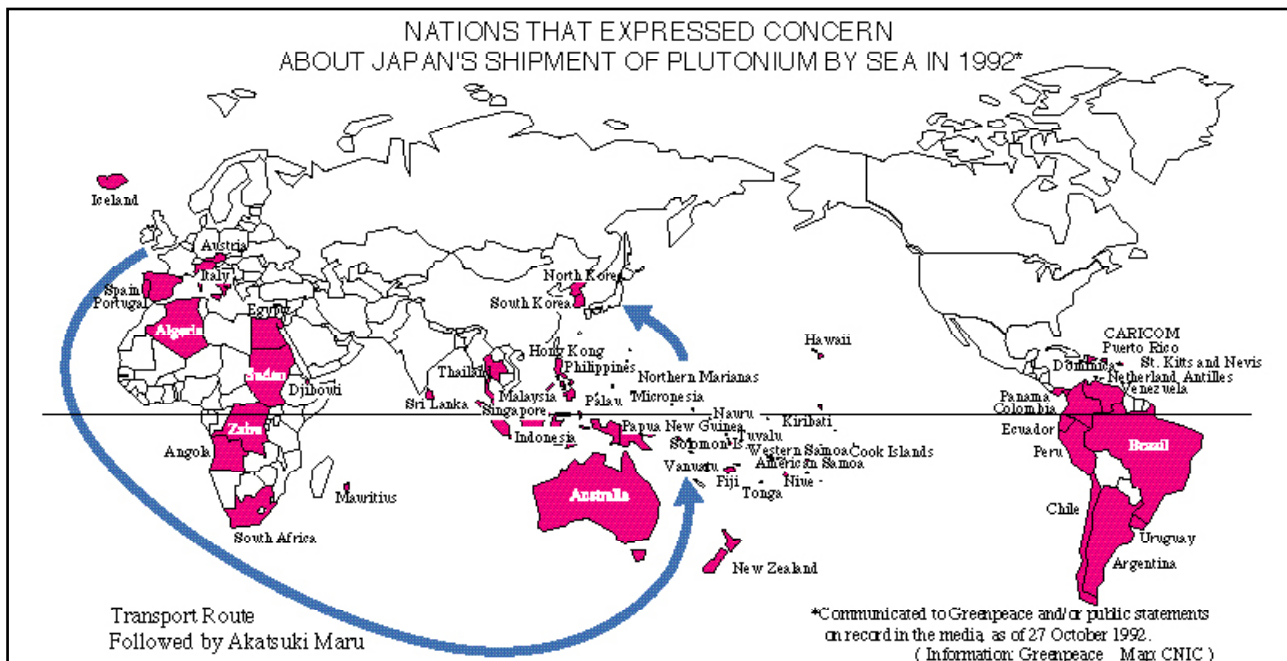
Citizens' Nuclear Information Center

3F Kotobuki Bldg., 1-58-15 Higashi-nakano, Nakano-ku, Tokyo 164-0003 JAPAN

URL: <http://www.jca.ox.apc.org/cnic/> ; E-MAIL: cnic-jp@po.ijnet.or.jp

CNIC and Stop MOX Campaign Representatives Visit Fiji

Aileen Mioko Smith, Green Action



On January 5th - 8th, Masako Sawai in charge of nuclear fuel cycle issues at CNIC, and Aileen Mioko Smith, director of Green Action, the international office for Stop Nuclear Waste Campaign,* visited Fiji to discuss with Pacific nation states the impending shipment of Japanese electric utility plutonium in the form of MOX, mixed plutonium/uranium oxide, from Europe to Japan.

In Fiji we met with the Secretariat of the South Pacific Forum, Foreign Affairs Ministry of Fiji, and the embassies or high commissions of Papua New Guinea, Federated States of Micronesia, New Zealand, Australia, Nauru, and Britain, as well as the Fiji Trade Union

Congress and Fiji Women's Rights Movement.

The following safety measures concerning the MOX shipment were addressed and lack of implementation of these important measures by Japan, Britain and France — the nations states

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responsible for the shipment— were discussed as well as how nation states could implement national or regional legislative measures to address these issues: **

1. comprehensive environmental impact assessment prepared
2. obligations to notify and consult complied with
3. emergency contingency plans being presented to en route states
4. comprehensive and realistic liability arrangements established and accepted by the carrier and its flag State
5. compulsory requirements for vessel salvage or transport flask recovery in the event of an accident adopted and accepted by the carrier

Liability was a major concern to en route Pacific states including liability for the perception of damage. The example of damage to fisheries and tourism was cited. Concern for this is even greater since current international conventions are unlikely to cover concerns about perception of damage. The South Pacific Forum (SPF) has also written France, Japan and the UK seeking increased transparency, notification, and consultation. Secrecy was cited as a great concern. Forum states would like the responsible governments to volunteer their emergency response plans to the International Maritime Organization (IMO). Issues concerning coverage for losses during accidents of transportation through the region have been put forth. The South Pacific Forum is now awaiting a response from all three governments.

Many questions were asked of us at the meetings in Fiji including what is the rationale for Japan wanting to avoid a separate escort for the shipment, what is the alternative to these shipments taking place, and why do electric utilities want to process plutonium into MOX fuel if conventional uranium fuel is better.

Officials seemed shocked to hear about the data falsification scandal of the Japanese MOX and spent nuclear fuel casks' neutron shielding resin, particularly because no mention had been given about this scandal during their week-long October tour of Japanese nuclear facilities at the invitation of the Japanese government, in spite of the fact that all domestic transport of nuclear fuel had been stopped because of this scandal. Stated one official, "That is a worrying briefing. It further strengthens the depth of our concerns about the shipments."

The ambassador of Papua New Guinea stated that the PNG government would do everything possible to ensure that ships are prevented from crossing their waters unless they are absolutely sure that there is no risk. Some other states expressed similar intentions.

Those we met were surprised to learn that these MOX shipments were absolutely not necessary for fueling nuclear power plants in Japan, particularly because they had been told by the Japanese government that these MOX shipments were required for running nuclear power plants in Japan and that without these shipments Japan would "suffer from lack of energy supply".

* * *

On January 29th Japan time, one day after the coalition's press conference (See next page), the Japanese government officially submitted its MOX fuel transport plan proposal to the US State Department via the US embassy in Tokyo. The transport plan will now undergo formal negotiations between the United States and Japan. Final approval for MOX use in TEPCO, Tokyo Electric Power Company's Fukushima reactor located in Fukushima Prefecture, Fukui Prefecture approval for MOX use in KEPCO, Kansai Electric Power Company's Takahama reactor, and re-licensing of the transport cask for KEPCO's MOX fuel are among approvals still required before final go-ahead of the shipment can take place.

On the same day, KEPCO has announced that use of MOX fuel in its Takahama Unit 4 reactor, originally planned for this spring, will be delayed until arrival of the MOX fuel from Europe at which time the reactor will undergo another outage in order to have the fuel inserted.

The transport plan submitted by the Japanese government are for both KEPCO and TEPCO fuel to be transported together, with no armed escort by any naval or coast guard vessel. Instead the vessels carrying each company's fuel will be refitted and armed to escort each other. (See Coalition press release dated January 28th.)

*SNWC is a coalition of over 30 Japanese NGOs including the Consumers' Union of Japan and the Japan YWCA, working on Japanese nuclear waste issues.

** These measures are discussed in a Greenpeace report dated October 1998.

Resolution from Forum Communique

Twenty-Ninth South Pacific Forum
24-25 August 1998

38. The Forum reiterated its position that shipments of plutonium and radioactive wastes through the region posed a continuing concern and agreed to adopt a consistent position on the issue, taking into account the risks of an accident occurring and the consequences of such an accident. It reiterated the expectation that such shipments should be carried out in a manner which addressed all possible contingencies and the concerns of relevant countries, including coastal states of the region. The Forum expected that shipments would be made only if the cargo is of demonstrably minimal risk, ships are of the highest standard and shipping states agree to promote the safety of the material and provide compensation for any industries harmed as a result of changes in the market value of the region's fisheries and tourism products in the event of an accident.

39. In this regard, the Forum noted the efforts of Japan, France, and the United Kingdom in providing information about recent shipment of high level wastes and expressed the hope that this would be continued.

40. Leaders agreed to pursue discussions with France, Japan and the United Kingdom on the current liability regime for compensating the region for economic losses caused to tourism, fisheries and other affected industries as a result of an accident involving a shipment of radioactive materials, even if there is no actual environmental damage caused. After an assessment is made on the adequacy of such a regime, the Forum will consider strategies for ensuring that an adequate and comprehensive compensation scheme is put in place.

41. The Forum further agreed that members, through the Forum Secretariat, pursue the relevant international agencies a strong regime of prior notification to, and consultation with, coastal states on planned shipments of hazardous wastes, the development of a regime for the preparation of Environmental Impact Statements and Emergency Response Plans.

INTERNATIONAL COALITION CONDEMNS SECRET JAPANESE PLAN TO SHIP PLUTONIUM; ORGANIZATIONS CALL ON JAPAN TO HALT PLUTONIUM PROGRAM

TOKYO, January 28, 1999, A coalition of organizations opposing an imminent Japanese plutonium shipment today revealed details about the clandestine transport. The coalition criticized Japan's plans to transport weapons-usable plutonium under conditions of inad-

equately safety and security.

During a press conference today, the coalition of Greenpeace, Citizens' Nuclear Information Center (Tokyo), Green Action (Kyoto) and Nuclear Control Institute (Washington, DC) revealed that two British-

flagged nuclear freighters, "Pacific Pintail" and "Pacific Teal", are being prepared to carry 40 fuel assemblies containing some 450 kilograms of weapons-usable plutonium from Britain and France to Japan. The two freighters, operated by Pacific Nuclear Transport Ltd (PNTL), are currently undergoing refitting and eventual arming in the VSEL docks, in Barrow-in-Furness (UK), where Britain's nuclear submarines are constructed. The refurbishment of the two freighters is being overseen by Marconi Marine (UK) under contracts reportedly worth 8 Million British Pounds. The coalition released photographs of the vessels which are in a closed area under tight military security.

The adaptation of the freighters is part of transport arrangements being made by Japanese companies Mitsubishi and Toshiba in conjunction with the power utilities KEPCO and TEPCO to bring mixed plutonium/uranium (MOX) nuclear fuel to Japan. The fuel, fabricated in Britain and Belgium, contains plutonium which has been separated from Japanese irradiated nuclear reactor fuel shipped to the Sellafield (UK) and La Hague (France) "reprocessing" plants.

The coalition criticized the Japanese, British and French governments for planning the plutonium transport in secret despite dozens of countries' demands for information and consultation regarding such ultrahazardous nuclear cargoes.

Citing worrying similarities to the last plutonium shipment from Europe to Japan, made in 1992 on board the ship "Akatsuki Maru", the coalition warned that current plans for the imminent plutonium shipments involve significant shortcomings in safety and security.

In particular, the coalition emphasized that in an apparent effort to cut costs, Japanese officials are planning not to use an armed naval escort to accompany the freighters. In 1992, their plutonium shipment was escorted by the "Shikishima", a specially constructed and armed Japanese Maritime Safety Agency

plutonium-escort ship with helicopters, 35mm cannons, 20mm machineguns, and launchable commando boats. Instead of using that vessel, constructed at a cost of 20 Billion Yen, Japanese officials are suggesting that they will instead lightly arm the two nuclear freighters and expect them to escort each other. This plan has been discussed with US officials who must accept the transport proposal in accordance with the US/Japan Nuclear Cooperation Agreement governing plutonium that is separated from US-enriched nuclear fuel. Given the deficiencies in the plan, US approval may be contingent upon Congressional review of a controversial "subsequent arrangement".

One key issue is the absence of radar-guided, anti-missile armaments on the freighters, just as they were absent from the "Shikishima" in 1992, despite a US Pentagon assessment that plutonium transports are vulnerable to attack from "small, fast craft armed with ship-to-ship missiles".

Such security concerns are justified given that under international non-proliferation regulations, the plutonium fuel contained in the shipments is classified as "direct-use" weapons material which could be used to construct a nuclear bomb in one to three weeks. The shipments from France and Britain to Japan will in fact contain enough plutonium to construct up to 56 nuclear weapons.

"We believe that these dangerous shipments, and indeed the controversial plutonium program which drives them, are unnecessary and unjustifiable given the environmental, public health and nuclear proliferation risks that they pose," said a statement issued by the coalition.

The coalition has called on the Japanese government to cancel the plutonium transports and terminate Japan's plutonium use program in order to assure "environmental protection and the cause of nuclear non-proliferation and disarmament."

Doctored Casks to be Used Continuously

The Science and Technology Agency (STA) has set up the Spent Fuel Transport Cask Inspection and Examination Committee to deal with altered data on neutron shielding resin used for spent-fuel and MOX transport casks. The Committee revealed on December 3, 1998 that 1) There are in general no problems regarding the safety of the casks using the resin; 2) To assure safety further, STA will re-examine safety procedures for individual casks. The Committee indicated that casks in question have slightly less capability in shielding radioactivity than originally planned, but meet international standards that are set at 2,000 micro Sv/h for surface dose rates and 100 micro Sv/h at 1 meter from the surface. As a consequence the casks are considered safe enough. The approval license was obtained based on fabricated and altered data, so the Committee asked STA to deal with each cask in turn. In Japan, there are two phases in the STA's approval process for transport casks: one is design approval, checking if the casks will have the necessary capability; the second procedure is the cask approval stage, checking if casks are built as designed.

Even though it was revealed that data had been fabricated, drastic measures such as canceling the approvals were never taken by the Government. This is because no cancellation measures are provided for in Japanese nuclear regulations. STA cannot cancel its own approvals and so the Government Agency simply issued administrative advice telling the responsible com-

panies to "return" the approvals to STA. After receiving the advice, Nuclear Fuel Transport Co. Ltd (NFTC), which owns NFT-type transport casks used to transport nuclear fuel to the Rokkasho Reprocessing Plant, returned the approvals to STA on December 18, 1998. In this way NFT-type casks have temporarily had their approvals withdrawn. However, NFTC is going to redo the shielding calculations and ask once again for design and cask approvals based on the actual resin capacity. It is likely that the approvals will be forthcoming without any trouble.

Similar measures are being taken for the MOX transport casks used by Kansai Electric Power Company. The casks were given design approval by the Ministry of Transport in 1996. However, this approval was returned on December 24, 1998 and now a new application has been filed based on actual resin capacity. In their application, the Company states that they will lower the amount of MOX to be transported, since the shielding capacity is less than what was originally designed.

These steps taken by the government and the applying power companies are highly questionable from the safety point of view. Local residents in Rokkaho and Takahama 4 are demanding that more should be done to assure safety. Clearly, current casks should never be reused. Instead, new ones should be designed and constructed.

by Masako Sawai

Plan to Build 20 New Reactors — Unlikely to Succeed

On December 24, 1998 Tohoku Electric Power Co. announced its plans to begin construction of Higashi-doori 1 (BWR 1100MW). Both Tohoku Electric Power Co. and Tokyo Electric Power Co. have plans to build two reactors each in this area and Higashi-doori 1 will be the first of these four. By contrast, building proposals for Shimane 3 (ABWR 1373MW), Fukushima I-7,8 (both ABWR 1380MW), and Ohma (ABWR 1383MW) were supposed to receive confirmation from the Electric Power Development Coordination Council but were never even presented to the Council in 1998. Similarly, the Kaminoseki 1 & 2 (both ABWR 1373MW) proposal, scheduled to receive confirmation from the Council by March 1999, is clearly not yet ready to meet this deadline.

The Japanese government is planning to start commercial operation of 20 new reactors by the end of 2010. However, only two reactors are under construction at present: Onagawa 3 (BWR 825MW) and the above-mentioned Higashi-doori 1. Even though the proposal for Hamaoka 5 was approved by the Minister of International Trade and Industries on December 25, 1998 and Shika 2 (ABWR 1358MW) is likely to be approved soon, no other proposals have been filed. Even Mr. Yoiichi Kaya, head of MITI's Advisory Committee for Energy which was in charge of the plan to develop 20 new reactors, has stated that "probably no one thinks it will actually come true." It would appear that this plan has reached a stalemate right now.

One of the 20 proposed new reactors is Maki 1 (BWR 825MW), against whose construction 61% of the local residents voted "No" in a referendum in 1996. Sites have not even been acquired fully by utilities yet for another six of the proposed reactors. While the site for

Ashihama 1 & 2 (both ABWR 1350MW) has been secured, opposition among local people is quite strong and the utility company was forced to promise not to conduct any further promotion until the end of 1999.

As for plans to build the Ohma reactor in Aomori Prefecture, an agreement for compensating fishermen was finally reached in August 1998 and a public hearing sponsored by MITI was held right in the local town on December 17. Ohma is being planned as the first reactor built by the Electric Power Development Co. Ltd. (EPDC) and it will use MOX in the entire core. While EPDC is a government-owned corporation, with 67% of its share currently held by the Ministry of Finance, there are plans for privatization in 2003, so lowering of costs will be of critical importance. The world's first attempt at using MOX in the entire core at a large scale ABWR run by a new company is the focus of severe criticism.

There are also other significant reasons for believing that the MITI plan is unlikely to succeed. First and foremost, there is the attitude of the utility companies. Although MITI has been putting pressure on the companies to promote this plan, the companies themselves are facing serious problems. Demand for electricity has not shown any signs of increasing for some time. The recession is still severe, and energy conservation to combat global warming is considered important. As shown on page 8, widening competition in the utility industries is making nuclear power less viable.

What the utility companies are actually trying to increase is the number of coal fired plants. The plan drawn up by the utility companies in 1998 was to increase the total capacity of coal fired plants to 44,170MW by the end of 2007. In '97, the installed capacity was only 21,910MW, so 22,260MW should be

added in only ten years. According to this plan the capacity of nuclear power will increase from 44,920MW to 56,200MW, an addition of 11,280MW in ten years. In the case of LNG plants, capacity increase is from 52,480MW to 69,180MW, adding 16,700MW.

According to MITI's long-term plan, the total nuclear capacity by the end of 2010 will be 66,000-70,000MW, while the capacities of coal and LNG plants are planned respective to be 36,000MW and 64,500MW. Whereas the capacity of the fossil fuel plants will exceed MITI's plan three years earlier than this date, it is clear that nuclear power will never meet the goals projected by the utility companies.

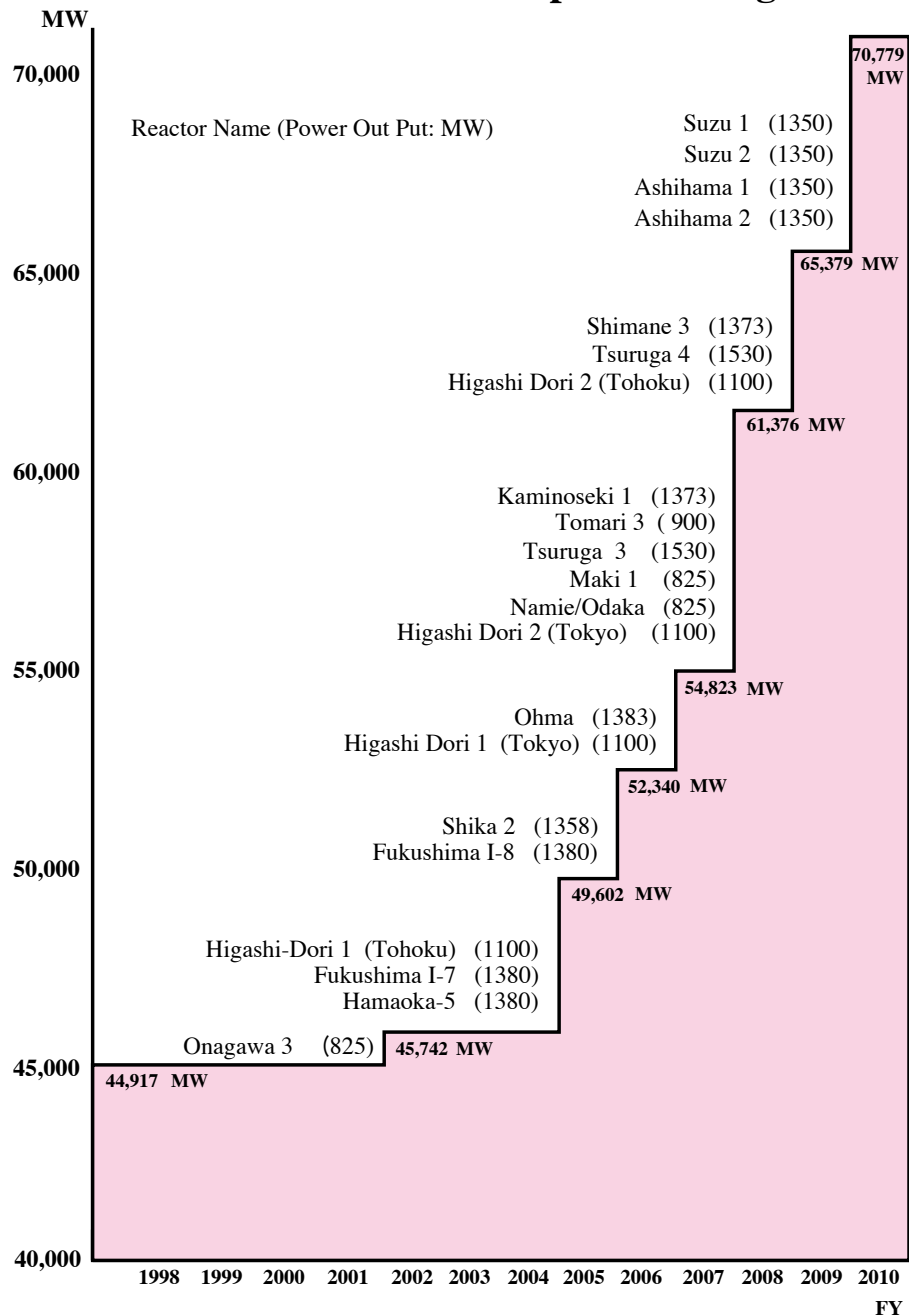
MITI has always explained the plan to build 20 more reactors was a measure necessary for curbing the levels of CO₂ emissions that are responsible for global warming. However, MITI also plans to increase the number of fossil fuel plants. Even though the increase is slightly less than what the utility companies have outlined in their plans, it is abundantly clear that this would never constitute a meaningful reduction in CO₂ emissions.

We can easily prove in many ways that the construction of more nuclear power plants does not do any good in terms of curbing CO₂ emissions. In fact, more nuclear power plants mean more fossil fuel power plants, not fewer. Nuclear power has always experienced difficulty in power adjustment and operation stops whenever accidents occur. So if more nuclear power plants are built, more fossil fuel power plants have to be built as well in order to assist in power adjust-

ment and also to function as "hot reserve" (i.e., power plants which usually operate on low power, but are ready to increase power). Right after the oil crisis, nuclear power seemed economical. Now to be competitive, it is obviously better for the utility companies to increase fossil fuel rather than nuclear power plants. Obviously the future of the earth will not be well served by increases in either kind of power plant. What is really needed, given the clear limits of so-called economic growth, are alternatives that will use much less energy and not destroy our environment.

by Baku Nishio

Nuclear Power Development Program



Uncertain Future for Japan's Electric Power Deregulation

—Talks Focus Exclusively on Cheaper Rates

Last December 11 the Electric Utility Industry Council's Basic Policy Committee issued a report aimed at large industrial power users concerning introduction of competition into the electric power sector. The policy proposed in the report allows, when implemented, non-utility power producers to sell electricity to large scale users. The Ministry of International Trade and Industry's (MITI) Agency of Natural Resources and Energy will receive public comments on this report for one month, finish the report on January 21st, examine the matter in more detail, and finally in June revise the Electric Utility Industry Law.

Changes in the law are to be implemented in the year 2000, and will apply only to extra-high-voltage power users of over 20,000 V and 2,000 kW. Three years after implementing the new system it is planned to be reexamined possibly with consideration given as well to other users.

Important matters have yet to be discussed, despite completion of the report. These include procedures regarding fixing rates assessed for access to the electric utilities' power grids; how to fairly distribute the cost burden of running transmission lines and other facilities; and the content of contracts designed to assure power supply from electric utilities in case a user is unable to secure electricity from a new power producer. If the transmission line usage fee (wheeling rate) is high, then providers have little incentive to enter the electric power market, and if users find they must pay high prices in order to assure ultimate provision from the electric utilities, their enthusiasm for contracting with new producers will wane. There is also concern that ordinary consumers will be unnecessarily burdened by overall grid maintenance costs. Depending on the direction that future debate takes regarding these issues, there is no way of telling whether introduction

of market competition will work effectively.

The report indicates that nuclear power "will be steadily promoted in view of environmental problems (carbon dioxide emissions)." An official declared at the committee meeting that "In order to maintain nuclear power capacity factor when demand falls at such times as New Year's, a system will be instituted under which electric utilities can limit the amount of power generated by new power producers." It is truly a despicable plan, but it is also a fact that such an arrangement will actually expose the nuclear power industry's inefficiency and diseconomy.

Meanwhile, there are no controls on increasing thermal power, and the plan leaves it to users to look for clean power producers. There was no discussion at all on efforts to increase the use of renewable energy. At meetings of the Electric Utility Industry Council's Electricity Rates Committee there on-going discussions are continued regarding reassessing the electricity rate structure in conjunction with deregulation. Several committee members indicated that they would like to see more consideration given to the environment by increasing rate options through the inclusion of green pricing and the like. However, the government and electric utilities responded by saying that, at present discussions are meant to lower rates and so any talk of making them higher is out of the question. It is obvious that if electricity rates become cheaper, current sluggish demand will tend to increase. How much longer will Japan continue with a policy that considers only economics important, but creates an even heavier burden on the environment? Some are of the opinion that the electric power industry needs re-regulation.

by Mika Obayashi

Takagi School for Alternative Scientists

ABC

On December 5, 1998 the Takagi School for Alternative Scientists started a series of lectures for the general public. On the day the first lecture took place, about 250 enthusiastic people filled the room completely. The School was established with prize money from the Right Livelihood Award received by former CNIC representative Jinzaburo Takagi in 1997. Its purpose is to study the environment, nuclear issues, human rights, and other problems of modern society from the perspective of citizens, and to create ways that scientists and prospective scientists, with their specialized expertise and capabilities, can link up with citizen movements. This series of lectures is named Course B, the aim of which is to create a dialog between citizens and scientists and science students under the theme "chemical substances and daily life." Course B is to provide a venue that facilitates dialog as specialists deliver plain-language talks on issues of modern science.

Dr. Takagi earned enthusiastic applause when he kicked off the series by saying, "I want to bridge the gulf between specialists and citizens so as to make it possible for citizens to take the initiative in posing questions about the issues that our society faces. Each of the domains of politics, economics, and science finds itself pressed to undergo major changes. Though heretofore shut out from the world of science, citizen participation and a general-public perspective must be the basis of our approach. I hope to win my personal battle with cancer with the Takagi School which serves as a light that gives me hope for living."

"Plutonium" was the theme of the first lecture, during which members of Course A (which aims to produce alternative scientists) enthusiastically discussed the basics of plutonium in a question-and-answer format.

After this Dr. Takagi spoke for about an hour on the topic of "Plutonium and the Citizen." In his talks he remarked that, "The plutonium issue symbolizes the problems of modern science and technology." He continued saying that "I've been involved with plutonium in one way or another for 37 years, and have believed that I must learn all there is to know about this unknown area. We have indeed increased what we know about plutonium, but at the same time we have found there is an even larger dark, unknown area about which we have no knowledge. We must produce scientists who are aware that they are not omniscient and can share concern with citizens"

The second theme is "Endocrine Disruptors and the Management of Chemical Substances," which will be followed by the themes of "Dioxins and Chlorine Compounds in Everyday Life," "Ozone Layer Depletion and Policy Challenges," and "Alzheimer's Disease and Aluminum," with the sixth and final meeting devoted to a wrap-up and general discussion.

As the Takagi School aspires to encourage a strong move towards "citizen science," Course B is vital because it forges a close link between citizens and scientists and prospective scientists who now belong to Course A. (alternative scientists course). The School has other activities as well. In conjunction with the 20th anniversary of the Three Mile Island nuclear accident this March, a field survey is in progress that will serve as the basis of a project to investigate the accident and its aftermath. The Project will be followed by a public symposium and then a final report will be published.

by Mikiko Watanabe

DATA: Spent Fuel Stored and Storage Capacity in Japanese Nuclear Power Plants

(as of the end of March 1998)

| company | plant | full core loading (tU) | yearly loading (tU) | spent fuel stored (tU) | storage capacity (tU) |
|----------|--------------------|------------------------|---------------------|------------------------|-----------------------|
| Hokkaido | Tomari | 100 | 30 | 190 | 600 |
| Tohoku | Onagawa | 160 | 40 | 130 | 600 |
| Tokyo | Fukushima I | 580 | 150 | 810 | 2700 |
| | Fukushima II | 520 | 140 | 1030 | 1900 |
| | Kashiwazaki-Kariwa | 660 | 170 | 940 | 2800 |
| Chubu | Hamaoka | 420 | 110 | 510 | 1400 |
| Hokuriku | Shika | 60 | 20 | 30 | 200 |
| Kansai | Mihama | 160 | 50 | 190 | 500 |
| | Takahama | 290 | 100 | 650 | 1500 |
| | Ohi | 360 | 120 | 440 | 1200 |
| Chugoku | Shimane | 170 | 40 | 230 | 600 |
| Shikoku | Ikata | 170 | 60 | 240 | 700 |
| Kyushu | Genkai | 190 | 60 | 240 | 1500 |
| | Sendai | 140 | 50 | 490 | 800 |
| JAPCO | Tsuruga | 140 | 40 | 360 | 600 |
| | Tokai | - | - | 30 | 200 |
| | Tokai II | 130 | 30 | 200 | 400 |
| Total | | 4250 | 1210 | 6710 | 18200 |

COMMENTARY:

This table shows the amount of spent fuel stored on each nuclear power plant at the end of March, 1998 (tU). The storage capacity includes the added storage pools, dry storage facilities, and extra space created by re-racking which is a re-modeling of a pool to allow more dense installation of fuel racks. The storage capacity has to be large enough for all the fuel to be stored in the case of emergency. This means that the possible amount of spent fuel that can be handled is what is left after subtracting an amount equivalent to full core loading from storage capacity. The storage capacity looks ample, but it will become short sooner or later. That is why construction of an additional storage pool is being planned on each site.

NEWS WATCH

15,000 Drums Containing Low-level Radioactive Waste Found Corroded

Of about 500,000 drums containing low-level radioactive waste stored at nuclear plant sites throughout Japan, about 15,000 have been found corroded. For those that have holes, stainless plates have been attached to mend them.

Power companies had not made this information public, claiming that they did not find any safety problems. However, it was revealed on November 24 by Japan Nuclear Fuel Limited - in charge of handling drums at the burial facility in Rokkasho, Aomori Prefecture - that 1,208 drums out of a total of 2,472 scheduled to be transported to the facility in January 1999 from Tokyo Electric Power Co's Fukushima I had been mended. It was only then that the overall figures for mended drums was disclosed following investigations conducted by the Federation of Electric Power Companies.

Compensation for Damages Caused by Nuclear Plant Accidents Raised to ¥60 Billion

In a report compiled on December 11, 1998 by the Atomic Energy Commission's special committee on nuclear damage compensation system, it was noted that the amount that power companies reserve for compensating damages caused by nuclear accidents would be doubled to ¥60 billion from the current amount, ¥30 billion.

Based on the report, the Science and Technology Agency at the next regular meeting of the Diet will propose amendments to relevant laws.

The power companies have unlimited liabilities for compensating damages caused by nuclear accidents (excluding those caused by tremendous natural disasters or social upheavals). But the amount they have to reserve has been stipulated by law and a contract of appro-

priate insurance has been made. In case the actual compensation exceeds this amount, the government is supposed to provide necessary subsidiary payments and low-interest loans based on a resolution of the National Diet.

Study Underway to Plan for a MOX Fabrication Plant

Japan Nuclear Fuel Ltd. (JNFL) announced on December 21 that it would begin a study commissioned by the Federation of Electric Power Companies in early 1999 designed to look into how best to establish the MOX fuel fabrication business. JNFL explains that it was only commissioned to investigate conditions for building plants in Japan, and that neither sites nor responsible oversight bodies will be specified. However, as JNFL has been constructing a reprocessing plant in Rokkasho, Aomori Prefecture, it is generally believed that a MOX fabrication plant will be built in the area adjacent to the reprocessing plant in order to avoid transporting plutonium. This commissioned research can be seen as the first step towards choosing Rokkasho as a possible site for the plant.

Safety Regulations to be Centralized in Ministry of Economy and Industry

The Science and Technology Agency Director-General, Mr. Takeyama and Minister of International Trade and Industry, Mr. Yosano conducted talks on November 17-18 for almost five hours regarding reorganization of government offices scheduled to take place in 2001. The talks addressed questions about how administration of nuclear power should be divided between the two Ministries and what new arrangements must be established to involve the Ministry of Education, Science and Technology and the Ministry of Economy and Industry. As a result of the talks, the Ministry of Economy and Industry will be given sole responsibility for safety regulations. The

exception will be safety regulations for nuclear fuel material handled for experimental and research purposes that will be under the regulatory supervision of the Ministry of Education, Science and Technology. The Nuclear Safety Commission will continue to double-check safety procedures.

It was also decided that the Japan Nuclear Cycle Development Institute (formerly PNC) will be jointly administered by the two Ministries. The Ministry of Education, Science and Technology will be in charge of research and development at Monju, whereas the Ministry of Economy and Industry will be in charge of high-level radioactive waste disposal.

Clearance Levels Proposed

The Nuclear Safety Commission's radioactive waste safety standards special committee compiled on December 15 a draft report proposing so-called "clearance levels" which allow utilities to separate concrete and metal from waste materials produced at decommissioned reactors as "not radioactive". NSC has been asking the public to submit their opinions on the proposal for one month.

In the draft, 0.01 milli-Sv/year has been taken as a standard figure at which exposure risks can be ignored, and they calculated the level of radioactivity for 20 major radionuclides, which will not exceed the standard figure when wastes are disposed underground or even recycled. Most of these figures are about the same as those mentioned in the IAEA's technical document (January 1996), but some are more severe and others are more relaxed. This shows how unreliable the consistency is between radioactive levels and exposure doses that are proposed by the Nuclear Safety Commission. Not only people involved in the anti-nuclear movement but also citizens involved

in the consumer movement and those opposing newly-planned industrial waste sites have begun to protest such "clearance levels." People who are protesting state that it is not acceptable to dump nuclear waste mixed with other non-radioactive waste or to have it reused in some daily products, no matter what level the radioactivity might be.

HTTR Went Critical

The High Temperature Gas-cooled Reactor (HTTR), which the Japan Atomic Energy Research Institute constructed in Oaraimachi, Ibaraki Prefecture achieved criticality on November 11. But there are many remaining technical problems that must be overcome before the reactor can be used for practical purposes, and industries have little interest in utilizing heat from the reactor.

According to the initial plan the reactor was scheduled to go critical at the end of 1997, but plans were delayed to June, September and finally to November 1998. A number of troubles occurred: in the experiment with "low temperature" using mock fuel, some equipment and shielding concrete were heated beyond temperature limits and control rods moved in the opposite direction from where they were instructed to go. It was found after loading fuel that the assumed amount of fuel necessary for achieving criticality was wrongly estimated.

The full loading of fuel was completed on December 16. It is planned to achieve a thermal output of 10 MW in September 1999 and by June 2000 will reach its full output of 30 MW. Some people believe, however, that the reactor will never achieve full output due to various defects including an inability to remove impurities in coolant helium gas.

SUBSCRIPTION

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Citizens' Nuclear Information Center
3F Kotobuki Bldg., 1-58-15 Higashi-nakano, Nakano-ku, Tokyo 164-0003 JAPAN
Tel: 81-3-5330-9520; Fax: 81-3-5330-9530