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Onagawa Lawsuit



In front of Sendai District Court Expressing Utmost Anger over the Verdict

(Photo by Tsutomu Koiwa)

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On January 31 the Sendai District Court handed down its decision, rejecting the plaintiffs' plea, in a lawsuit that sought injunctions on the operation of Tohoku Electric Power Co.'s Onagawa No. 1 (BWR, 524 MW) and on the construction of Onagawa No.2 (BWR, 825 MW). On February 14 the plaintiffs, who live in the vicinity of the nuclear power plant, filed an appeal in Sendai High Court in objection to the verdict.

There are normally two kinds of lawsuits that attempt to halt the construction or operation of nuclear plants. One kind is filed against the government, and seeks the cancellation of permission to site a nuclear reactor; the other is filed against electric utilities, and seeks injunctions on construction and operation. The Onagawa case belonged to the latter category, and was the first of its kind.

The suit was filed in December 1981, by which time there had already been one case of the former kind in which the court had come to a decision. Subsequently there were a number of other verdicts, and the Supreme Court also handed down two decisions. These decisions all held that there were no major faults with the government's safety screening, and that the permits were in accordance with the law. There was even a decision stating that whether or not a reactor was built and operated according to its permit was beside the point, and that "[a permit] does not guarantee the safety of an actual nuclear power plant."

The Onagawa suit was the first in which a court has handed down a judgment on "the safety of an actual nuclear power plant," but it did a severe disservice to the plaintiffs by stating only that, "Because the safety screening was proper, the Onagawa nuclear plant is safe because it was subjected to that screening." In this case where the suit was filed against the electric utility instead of the government, the soundness of the screening was not in question. In view of the fact that the plant's very safety was at issue, the decision is not very convincing.

The decision recognized that there is no threshold for the relationship between the extent of exposure to radiation and the incidence of chronic effect in the low dose range, and it also says that in operating a nuclear power plant it is difficult to avoid radioactive emissions of a certain amount into the environment. Nevertheless, the decision stated that, in view of the need to

supply electric power, the possibility of damage from radiation exposure should be regarded as acceptable when it is of a small "extent that can be ignored in the light of general social norms," and turned down the plea for an injunction. It was an extremely vague, political verdict.

At the same time, however, the decision clearly criticized the electric utility with regard to public disclosure of information. Concerning the burden of proof in a court case, the decision on the one hand held that in line with general principles the plaintiffs were responsible for demonstrating the power plant's danger, but on the other hand that the defendant is in possession of all information pertaining to the plant's safety, for which reason the court pressured the electric utility to make such information public and prove that it is safe.

Regarding the utility's actions taken heretofore at the time of accidents, the decision said it was only natural that the utility has been criticized for being secretive toward local residents. The court said that safety measures should not be taken by Tohoku Electric alone, but that instead when problems occur the company should not only notify the responsible government agencies and the local government, but also provide the most detailed and specific information possible to local residents.

On this occasion the decision even said that, "There is a problem in that the lawsuit was conducted without adequate information having been submitted."

It will be of particular interest to see what kind of decision is handed down with regard to these matters in the appeal.

First Public Hearing Held

The Atomic Energy Commission held a public hearing on Japan's nuclear energy policy for the first time in history on March 4-5 as part of the review of the current Long Term Program for Nuclear Energy Development & Utilization now being conducted by the AEC's Long Term Program Committee. The public was invited to make submissions of their opinions concerning the Program, and some 14 people were selected to state their views to the Committee. 13 experts, local political leaders, and union leaders were also invited to make statements.

This was the first hearing of its kind in which the Committee has actually listened to the views of the public. The Committee has always been a totally closed circle, made up entirely of industry-related experts and officials. Discussions conducted by the Committee were not open even to the media.

Recently, there have been various news reports suggesting a scaling down of the plutonium program. Although nothing has officially been announced by the government, there seems to be growing pressure both domestically and internationally to slow the program down. But the specific plans of delay reported in the press apply only to those projects which are still at the planning stage, and do not include ongoing projects like the FBR Monju or the Rokkasho reprocessing plant now under construction.

The tone of opinion at the AEC's first public hearing reflected this situation and most of the views expressed were appeals for discretion or further consideration of the plutonium program. There were proposals to freeze current projects, or institute a moratorium, and many participants emphasized the need for more discussion and a national consensus on the program.

Participants also stressed the need for

more research & development of other sources of energy, including renewable energy, and disclosure of information. On the whole, the public hearing conveyed the impression that the Japanese people are not in favor of going straight ahead with the current plutonium program.

The public submitted as many as 3,300 opinions, indicating the high level of public concern and interest in the program. However, since only 14 people were selected to state their opinions at the hearing, the uninvited people who submitted opinions gathered on the same day to hold 'The Other Public Hearing on the Long-Term Program.'

The major arguments here concerned the manner in which the AEC had conducted the hearing. There were only about two weeks from the announcement until the deadline for submissions. Submissions had to be on one of 7 themes preselected by AEC, none of which questioned the basic policy of promoting nuclear energy, and they had to be in the form of short one-page summaries. In short, the AEC didn't seem at all seriously interested in listening to what the Japanese public thought about Japan's nuclear program.

The participants in 'The Other Public Hearing on the Long Term Program' adopted a resolution demanding that the AEC publicize all discussions of the proposals made by the general public, and show which proposals had been taken into considerations and which not, and for what reasons. If the AEC is really serious about reaching a public consensus in making nuclear policy, the Long Term Program Committee should disclose the draft of the Long Term Program when it is made, and submit it to public consultation.

Proposal for Moratorium on Plutonium Utilization Program

Jinzaburo Takagi, Dr.

(1) The Japanese Plutonium Program Runs Counter to Worldwide Efforts for Nuclear Non-Proliferation.

The general perception of plutonium has drastically changed since the 1970s and 80s. Plutonium is no longer a material with a positive value which should be bred, but merely a material with a negative value which should be disposed of as waste.

Now that the cold war structure between the USA and the former USSR has collapsed, huge amounts of highly enriched uranium and plutonium are being dismantled from nuclear weapons. The plutonium from dismantled warheads poses a great proliferation threat worldwide, and is one of the most urgent issues that the world has to face today. That the best way to prevent proliferation is to dispose of these materials as waste, as indicated in the RAND and NAS reports, has now become the internationally accepted view. Commercial utilization of plutonium hardly remains a viable option. However, Russia does seem to be pursuing the option of utilizing weapons plutonium as an asset in civil reactors.

The Japanese plutonium program would encourage these plans, it would provoke a plutonium development race among other countries as well, and would certainly lead to nuclear proliferation. Plutonium is the energy source most unfavorable to regional security and peace.

If reprocessed plutonium is supplied in accordance with the plans of the AEC Advisory Committee on Nuclear Fuel Recycling reported in 1991, a huge amount of surplus plutonium is likely to result since the actual demand is expected to be low. In fact, the stockpile of plutonium at the

end of 1992 already amounts to 4.5 tons. This figure is bound to grow, since there is no way to control overseas reprocessing.

(2) Reactor Grade Plutonium Can Be Made into Weapons.

It has already been confirmed, in a test conducted in the US in 1962, that reactor grade plutonium can produce nuclear explosions. The NAS Report says, "Virtually any combination of plutonium isotopes can be used to make a nuclear weapon." The neutrons of plutonium 240 may cause 'pre-initiation' of the fission chain reaction, in the case of reactor grade plutonium, and may reduce its explosive power. Nevertheless, the explosive yield of even a relatively simple device similar to the Nagasaki bomb would be of the order of one or a few kilotons, and would be fully sufficient for a nuclear weapon. According to the RAND report, the critical mass of reactor grade plutonium is 6.6 kg (with a reflector), and only 40% more than that of weapons grade plutonium.

(3) The Whole Program of Plutonium Utilization Would Expose Human Beings and the Environment to Unprecedented Danger.

Plutonium itself is extremely toxic, and if it is to be utilized, a very complicated and troublesome nuclear fuel cycle system is essential. For instance, in the fast reactor cycle, which is regarded as the ultimate goal of plutonium utilization, one needs to go through the following procedure:

1. reprocess the light water reactor (LWR) spent nuclear fuel,
2. process the extracted plutonium into

MOX fuel,

3. burn the fuel in fast breeder reactor (FBR)s,
4. reprocess the FBR spent fuel,
5. (repeat the process from 2).

Transports of plutonium and spent nuclear fuel would be necessary between each process.

If plutonium is to be an energy source contributing some percentage of Japan's primary energy supply, the amount of plutonium to be handled and transported in the whole system will be several hundred tons annually. This would pose an enormous threat to human beings and the environment, and would create a huge amount of radioactive waste. In such a society, democracy would be neglected and information, nuclear materials, and nuclear facilities would have to be protected under strict security control to prevent proliferation and theft. Nonetheless, the danger of nuclear proliferation cannot be completely ruled out. It is also impossible to discriminate between those countries which can be allowed to utilize plutonium and those which cannot.

(4) Economic Disadvantage of Plutonium is Apparent.

The economics of plutonium fuel makes little sense, whether it is used as MOX for LWRs or for FBRs. According to the RAND Report, there would be no economic advantage in utilizing plutonium fuel unless the yellow cake spot price rose to more than \$100/pound for MOX use in LWRs and \$220/pound for FBRs. The current price for yellow cake is less than \$10/pound, and there is no prospect for plutonium fuel becoming commercially competitive in the near future. The RAND Report says it will be at least 50 years before MOX for LWRs and 100 years before MOX for FBRs becomes commercially viable. Even this estimate may be too optimistic.

If the Japanese government is to con-

tinue its plutonium program, it will have to keep on investing in the program as it has in the past and this will suppress R&D investment in more sustainable and environmentally healthy sources of energy like renewable energy.

(5) Proposal for a Moratorium

Until today, discussion regarding the Long Term Program has taken place only within the small circle of experts close to the government and industry. This two-day session of 'listening to public opinion' is not enough.

I would therefore like to propose to the AEC a moratorium of at least 5 years on the plutonium utilization program, including a freeze on the operation of Monju, construction of the Rokkasho Reprocessing Plant, and utilization of MOX fuel in LWRs, and the suspension of the operation of Tokai Reprocessing Plant. During those five years, a comprehensive environmental assessment of plutonium utilization should be made with the participation of a wide range of experts. The draft of the report should be made available for public scrutiny, and then finalized after public discussion including public inquiries.

This environmental assessment should cover issues relating to a) safety, b) necessity, c) economy, d) non-nuclear proliferation, e) image of a plutonium-economy society, and f) international relations, and should be conducted on the basis of the most recent knowledge and technology.

It is Japan's international responsibility to make such an environmental assessment, now that the whole human race has to face the problem of dealing with the material called plutonium.

South Korean Data on Workers' Exposure and Waste

From one of the Korean anti-nuclear citizens' groups, we have received the "Korean Nuclear Safety White Paper 1993."

The following is a translation of some of the data on workers' exposure and waste.

Workers' Exposure

	'88	'89	'90	'91	'92
Total workers (Person)	6,261	6,336	6,593	6,085	6,537
Total dose (Person Sv)	20.67	14.86	14.88	8.18	11.55
Mean dose (mSv/Person)	3.30	2.36	2.26	1.34	1.77

Storage of Low-Level Solid Waste

(1drum=200mℓ)

Nuclear Power Plant	Stored Amount (drums)	Capacity (drums)
Kori, PWR (since '78)	27,713	50,200
Wolsong, CANDU ('83)	1,738	9,000
Yeonggwang, PWR ('86)	5,236	13,300
Uljin, PWR ('88)	3,840	7,400
Total	38,527	79,900

Storage of Spent Nuclear Fuel

(number of fuel assemblies)

Nuclear Power Plant	Stored Amount	Capacity
Kori, PWR	1,469	2,974
Yeonggwang, PWR	564	1,492
Uljin, PWR	292	1,365
Total	2,325	5,831
Wolsong, CANDU	46,994	80,736

HLW TRANSPORT -- Series No. 2

What is High Level Radioactive Waste?

When spent nuclear fuel is reprocessed, there remains a highly radioactive waste solution containing radioisotopes such as cesium-137, strontium-90 and neptunium-237. This waste solution is generally referred to as liquid high level waste (HLW).

Since high level waste in this liquid form is difficult to handle, it is usually vitrified for ease of handling and storage in a borosilicate glass matrix and contained in a stainless steel cylindrical container called a canister. Canisters are typically about 1.5 m long and 0.5 m across. The high level waste resulting from reprocessing of Japanese spent fuel in Europe is supposed to be returned to Japan in this solid form on board a purpose-built cargo ship. 3,000 to 4,000 canisters in total are expected to be returned to Japan from France and the UK in several tens of shipments starting this year-end.

The radiological toxicity of high level waste is such that even the contents of a single canister, if released to the human environment, could cause cancer in tens of thousands of people. A cargo ship fully loaded with HLW canisters will carry radioactivity in quantities far exceeding the total amount released in the 1986 Chernobyl accident.

Some of the radioisotopes contained in high level waste have half lives as long as over one million years, making the management and final disposal of radioactive waste extremely difficult. In view of the enormous toxicity and long half lives of certain radioisotopes, HLW should be kept isolated from the human environment for millions of years, but this is virtually impossible.

Although vitrification is a cheap and technically relatively simple way of solidifying high level waste, glass is a rather controversial matrix for confining radioactive elements. Some experimental results show that glass containing HLW tends to develop cracks and become more soluble in water due to intense radiation and the large decay heat of radioisotopes.

Another technical difficulty with solid HLW is that the SUS-304L stainless steel which is used to contain the vitrified HLW is vulnerable to corrosion, particularly when exposed to salty water. Thus, if the HLW canister is dropped into the sea in a ship accident during sea transport, the radioactive contents of the canister are most likely to be released into the sea water in a short time, causing contamination of the marine ecosystem.

Anti-Nuke Groups Active Around Japan

Daichi

Daichi, the Association to Preserve the Earth, is an organization that handles organic vegetables, meat and other health food items. Established 19 years ago, Daichi is a citizens' organization, and manages 9 corporations dealing in distribution of chemical-free foods. It is made up of 2,300 producing households throughout the country, 35,000 consuming households in metropolitan Tokyo area, and 150 staffs.

Our purpose is to popularize organic farming, not just to spread the concept. We want to demonstrate that organic farmers and cattle raisers can make a living from organic production, consumers can continue eating chemical free food, and this whole system can be sustained for the long term -that is our real purpose. With 19 years of experience, we feel we have accomplished quite a lot.

We are also involved in 13 different social and environmental issues related to organic farming, such as tropical rainforests, recycling, garbage, rice, water quality, and international network of farmers.

One of these issues is nuclear power, which we were forced to confront by the Chernobyl accident.

After the accident, radioactive particles were blown all the way to Japan and contaminated our produce. We were producing organic food without using any chemicals and yet it was contaminated with radiation. This made us realize that nuclear power plants can never coexist with organic farming and cattle raising practices.

Since then we have been working as one of the main coordinators in the anti-nuclear

movement in metropolitan area, and trying to stop the construction of the nuclear fuel cycle facilities in Rokkasho-mura, in Aomori and the operation of the fast-breeder reactor, Monju. We also held workshops on the nuclear issue to educate our local producers.

At a time when the Uruguay Round has been concluded and many of the agricultural goods would be liberalized for imports, we have recently established a coalition called DEVANDA -Do It Eco-Vital Action Network for Dynamic Agri-Native, in concert with 300 or so concerned organizations, in agriculture, forestry and fishing, to support these primary industries so that a self-sufficient society where nuclear power is no longer needed would be established.



(Daichi, at an anti-nuke rally)

NEWS WATCH

Nothing Changes Despite New Government

The Cabinet decided the budget for Fiscal 1994 (April '94 - March '95) on February 15. In spite of the fact that the government has changed hands, there seems very little difference in the content of the budget, as ¥447 billion has been appropriated for nuclear development, a 0.9% decrease on the previous year. Expenditure for promotional activities for the use of plutonium has increased by ¥1 billion to ¥4.9 billion.

A promotional video that the Power Reactor and Nuclear Fuel Development Corp. (PNC) produced last year was very poor in quality, containing such comments as "it is harmless to drink water containing plutonium," and "plutonium produced from nuclear reactors cannot be used for nuclear weapons." The video aroused harsh criticisms locally and internationally, to the extent that the U.S. Department of Energy Director O'Leary sent a letter dated February 7 to PNC Chairman Ishiwatari asking him to withdraw the videos from circulation.

The Japanese government only replied by saying 'there is nothing wrong in the contents,' but it symbolizes the government's overwhelming eagerness to push ahead its plutonium program despite the world trend to phase out from plutonium.

Waste Regulations Revised

In response to the ban on radioactive waste ocean dumping by the November 1993 meeting of the London Convention signatories, the Japanese government on February 18 revised its regulations concerning radioactive wastes. The government previously had a plan to conduct experimental dumping of radioactive waste in Northern Pacific waters, but this plan was frozen in January 1985. Nevertheless ocean dumping was still legally possible until the recent revision instituted a total ban.

Bribery Revealed in Construction of Ashihama N-Plant

In Nanto-cho, Mie Prefecture, where Chubu Electric Power Co. plans to construct the Ashihama nuclear plant (2, 1,350 MW ABWRs), the power company has been criticized for bribery. On December 16, 1993 the company paid ¥200 million to the Kowaura Fisheries Cooperative Association, which had been opposed to the plan for the past 30 years. This money was assumed to be an advance compensation to the local fishing community for alleged damages. It was argued that fishing might be brought to a halt if a preliminary assessment were to be conducted in the waters

near the proposed site. In fact the assessment would have no impact whatsoever on fishing and the payment is essentially a bribe. The electric company handed over the advance payment before it even asked the co-op for permission to conduct a preliminary assessment, and will demand that it return the money if it does not agree to the assessment. The association's general meeting, which was held on February 25, withdrew its former resolution, passed in 1964, opposing construction of the plant.

Two days later, on February 27, it was revealed that a total of ¥20 million had been paid to promoters in the town during the period between 1989 and 1991, by an organization associated with a general contractor. It was also revealed that the power company was the mediator.

Monju Ready to Start

The fuel for the first loading had all

been brought on to the site of the fast breeder reactor Monju by March 4. The one hundred and eight (108) inner core fuel assemblies necessary for criticality have already been loaded into the reactor. The loading of the 90 outer core fuel assemblies started on January 27. Monju is expected to achieve minimum criticality in April, when about 70 of the outer core fuel assemblies have been loaded.

China Goes Nuclear

China's Guangdong (Daya Bay) 1 nuclear power plant (PWR 900 MW) started commercial operation on February 1. Guangdong 2 went critical on January 21. The country's first nuclear power plant, Qinshan 1 (PWR 300 MW), which was built before Guangdong, went critical in October 1991, but its commercial operation has been delayed. Maeda Corp., a Japanese contractor, participated in the construction of Guangdong.

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