

NUKE INFO TOKYO

March/April
2005



Citizens' Nuclear Information Center

No. 105

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Report on National Conference to Stop Two Nuclear Bills



*CNIC's Baku Nishio
speaking at the
National Conference
to Stop Two Nuclear
Bills*

*(Photo by Yasuko
Yamaguchi)*

As discussed in the News Watch section of NIT 104, a campaign has been launched against two nuclear bills covering, among other things, the introduction of a 'clearance' system for some low-level radioactive waste. The official title of the first bill is the Bill to Amend the Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Reactor Regulation Law). The second is the Bill for the Creation and Management of a Reprocessing Fund (CNIC's translation). The government introduced both bills to the Diet on February 18th.

Prior to this, on February 6th, a national meeting opposing these two bills was held in Tokyo. Around 100 people attended. Following presentations by Kazuhide Sueda (Kansai Nuclear Waste Campaign) and Baku Nishio (CNIC) explaining the problems with the two bills, we heard reports from Iwate Prefecture, home to a medical radioisotope waste treatment center, and from Ibaraki Prefecture, where the dismantling of the Tokai reactor has begun. After these reports we discussed tactics for

opposing these bills. One issue discussed was the need for simple, readily understandable language to express the problems with the two bills.

Unfortunately, parties supporting the bills hold more than half the seats in the Diet at the moment. It will be difficult to prevent passage of the bills, but even if they are passed, it is still possible for public opinion to prevent implementation of the clearance system.

Thanks to the work of Diane D'Arrigo of Nuclear Information and Resource Service

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(NIRS), over 80 organizations and over 120 individuals from 14 countries signed a letter of support for the meeting. A separate letter of support was also received from Stewart Kemp of the Nuclear Free Local Authorities Steering Committee in the UK. It was a wonderful opportunity for participants of the meeting to join with people all around the world in the struggle against the introduction of a clearance system.

The resolution passed at the meeting was handed to the Nuclear and Industrial Safety Agency the following day. On the same day we held a meeting with politicians in the Diet building. Being a Monday, many Diet members had returned to their local electorates, meaning that we met their secretaries, but they were very diligent in taking down notes of what we said. An employee of Tokyo Electric Power Company also attended the meeting, showing that there is considerable interest in these bills.

Activists have been back and forth between the Diet building since then, delivering information and expressing their opposition to the bills. CNIC faxed a newsletter to Diet members and provided information to Diet members who planned to ask questions on the issue. We were also invited by the largest opposition party, the Democratic Party (which has both pro- and anti-nuclear members) to a hearing they held on the nuclear fuel cycle. At that meeting, too, we emphasized the problems with the two nuclear bills.

The bills are aimed at enabling the operation of the Rokkasho Reprocessing Plant. The Reprocessing Fund Bill is, precisely as it says, a bill to raise funds required to operate the Rokkasho Reprocessing Plant. Until now the power companies have accumulated funds internally to cover the costs of operating the reprocessing plant. (In practice these funds have been invested in construction.) However, the new fund will be an external fund intended to also cover dismantling and waste disposal. Since the Ministry of Economy Trade and Industry will decide the amount to be put aside,

in the event of a shortfall the power companies will be able to escape responsibility.

A major theme of the Bill to amend the Reactor Regulation Law is strengthening nuclear material safeguards. The government will set a 'Design Basis Threat' and require companies to establish nuclear material safeguards to respond to such a threat. The government will conduct periodic checks on the implementation of these safeguards. In this context, private information will be monitored on the assumption of the presence of 'dissatisfied workers' as 'hypothetical enemies'. Also a duty of secrecy will be imposed on workers, with penalties for non-compliance. The biggest target of these measures is the Rokkasho Reprocessing Plant.

Of course the clearance system is not being introduced just for the sake of Rokkasho. However, it is expected that 520,000 tons of the 550,000 tons of radioactive waste that will be generated when the Rokkasho Reprocessing Plant is dismantled will be below the clearance level. Without this system, the astronomical cost of disposal would inevitably prevent the plant from ever becoming operational.

So this clearance system, dangerous and unnecessary in itself, is in fact being introduced in preparation for the operation of the very dangerous and unnecessary Rokkasho Reprocessing Plant. We therefore hope to link the opposition to the two bills with the opposition to this plant.

Baku Nishio (CNIC Co-Director)

Haiku for the Season

*wind-blown petals
embroider an edge of the lake
pink-colored curves*

Seiji Takahashi

International Critical Review on Japanese Long-Term Nuclear Program: Interview with Hideaki Takemura

Past issues of NIT have reported on the fact that our Co-Director, Hideyuki Ban, is a member of the Japanese Atomic Energy Commission's (AEC) New Nuclear Policy-Planning Council. (Recently AEC determined the official English title. Previously we referred to it by various names, including 'Long Term Nuclear Program Planning Committee'). NIT 104 briefly discussed the Planning Council's Interim Report released last November. The Interim Report dealt with the nuclear fuel cycle, in particular with the Rokkasho Reprocessing Plant. An international panel has now been established to critique this report. We interviewed one of the instigators of this project, Hideaki Takemura of the Institute for Sustainable Energy Policies (ISEP).

1. What is the name and purpose of the project?

It is called the International Critical Review on Japanese Long-Term Nuclear Program (Chokei in Japanese) (ICRC). The Interim Report was issued as Japan Nuclear Fuels Ltd. (JNFL) was preparing to begin uranium trials at the Rokkasho Reprocessing Plant, so it is likely that the conclusions were strongly influenced by political factors. The purpose of the critical review panel is to reassess the contents of the Interim Report from an objective international standpoint and to critically review the decision making process.

2. What aspect of the Rokkasho Reprocessing Facility will you focus on?

The plutonium use policy, which is the underlying condition for the operation of Rokkasho. The international review will focus on five key questions: energy security, compatibility with the 'junkangata shakai' concept, non-proliferation, costs associated with a change of policy, and the policy decision-making process.

- In the Interim Report, energy security was explained as though all nuclear power plants would cease operating if spent fuel were not reprocessed.
- 'Junkangata shakai' is a Japanese concept. It is something of a mixture of the English concepts of 'closed-loop economy' and 'ecological sustain-

ability'. It was discussed in terms of the notion that the use of plutonium reduces waste and conserves resources.

- The Interim Report suggested that direct disposal presents greater proliferation risks than reprocessing.
- Although direct disposal was found to be cheaper than reprocessing, when costs associated with a change of policy were factored in, the surprising conclusion was that reprocessing was cheaper.

We want to assess these issues in the light of international standards.

3. Why did you start this project now?

Not allowing the Rokkasho Reprocessing Plant to commence operations is a key issue in Japan's energy policy. The Interim Report points to the fact that 2 trillion yen has already been poured into the plant and gives the cost of a change of policy as a reason for not making such a change. If the reprocessing plant becomes operational and even bigger investments continue to be made, it will become even more difficult for Japan to change direction.

4. Who will participate in the project?

There will be four panelists on the international review panel: Fred Barker (UK), Frank von Hippel (USA), Mycle Scheider (France) and Christian Kueppers (Germany). From Japan, there will be Professor Hitoshi Yoshioka of Kyushu University (Chairperson), Takeo Kikawa (Tokyo University), Tetsunari Iida (Director of ISEP), Yuichi Kaido (Japan Federation of Bar Associations, Committee for Preservation of Environment) and You Fujimura (Kyoto University).

5. How do you plan to carry out the project?

First we will send the panelists the English translation of the Interim Report (available on CNIC's web site) along with key questions and ask them to make an assessment. At the end of March we will invite the overseas panelists to Japan and have an international assessment meeting. This will give the overseas panelists and the Japanese panelists a chance to exchange ideas and information. The overseas *Continued on page 6*

Rokkasho and Proliferation Revisited

In each of the past two years, around this time Nuke Info Tokyo has included an article raising the question of whether Japan might some day acquire nuclear weapons (NIT 93, and NIT 99). These articles focused in particular on suspicions regarding Japanese intentions, as evidenced by statements of senior government politicians and others. This article will not rehearse these suspicions in detail. After reviewing some relevant international political developments, it will consider whether Japan is capable of producing nuclear weapons and the international implications of such a capability.

The article in NIT 99 (March/April 2004) took as its starting point the following statement by George Bush: "The 40 nations of the Nuclear Suppliers Group should refuse to sell enrichment and reprocessing equipment and technologies to any state that does not already possess full-scale functioning enrichment and reprocessing plants." (11 February 2004) Since Bush's statement, other prominent people have made similar proposals. Mahomed El Baradei proposed a five-year moratorium on constructing uranium enrichment and reprocessing facilities (5 January 2005) and Kofi Annan's High-level Panel on Threats, Challenges and Change made the same call without specifying a time frame for the moratorium (2 December 2004). These calls come in the lead up to the NPT Review Conference, to be held in May.

While a moratorium is obviously a good idea, the proponents envisage internationalizing the supply of enriched uranium and reprocessing services and guaranteeing supply to countries which abide by IAEA rules. Every page of the 105 issues of NIT that CNIC has produced so far testify to our opposition to nuclear energy per se, so we will not discuss this internationalization proposal further here. But the recognition by these prominent people that uranium enrichment and reprocessing create major proliferation risks and that the current system

is inadequate to deal with these risks should be applauded. On the face of it, the moratorium would appear to apply to Japan's Rokkasho Reprocessing Plant, currently undergoing uranium tests, but the people proposing the moratorium have all studiously avoided making this link. They haven't made their views on the matter public, so we won't speculate about what they are thinking, except to note that Kofi Annan's High-level Panel refers to "a guarantee of the supply of fissile materials by the current suppliers at market rates." Since Japan is not a current supplier, there is no obvious reason why it should be exempted from the moratorium.

The issue of whether a moratorium should be placed on reprocessing at Rokkasho essentially revolves around two questions. Firstly, could operation of Rokkasho lead to Japan acquiring nuclear weapons and secondly, might it encourage others to acquire nuclear weapons? This article attempts to answer these two questions, but first a comment on the relative importance of considering capabilities as opposed to intentions.

As a peace activist in Australia, I discovered that it was necessary to consistently critique the Defence Department's claim that it looks at capabilities rather than intentions when assessing military threats. An assessment that only looks at one side of the equation is unbalanced. The focus on capability in this article should therefore be seen as a balance to the articles that have appeared in past issues of NIT, rather than as a denial of the significance of the intentions of some Japanese politicians. Indeed, North Korea's recent declaration that it has nuclear weapons, regardless of whether or not it should be taken at face value, is likely to strengthen the position of those within the Japanese political establishment who would like to open up the debate about Japan becoming a nuclear weapon state, a debate which has until now been kept at the level of vague allusions.

So is Japan capable of building nuclear weapons? El Baradei clearly thinks so. He has said that up to forty countries possess that capability. This figure is apparently based on the existence of nuclear facilities in those countries (commercial or research) and a pool of technological skills. Japan certainly has the facilities and the technological skills. It also has the fissile material and the capability to produce more fissile material at will. This comes from its possession of highly enriched uranium for research reactors, a uranium enrichment plant and the reprocessing facility at Tokai Village, which, despite being a developmental level facility, has over a period of 25 years separated around seven tons of plutonium from spent fuel. If El Baradei is right then, other than political will, the only thing stopping Japan from producing nuclear weapons is IAEA safeguards. Before discussing these, however, first let us consider the claim often made by the Japanese government that its plutonium stockpile is reactor grade plutonium, not weapons grade plutonium.

The question of the potential to use plutonium extracted from spent fuel to make nuclear weapons is discussed in detail in the Report of the International MOX Assessment (IMA Project, CNIC 1997). This report quotes Robert Seldon of the Lawrence Livermore Laboratory as follows: "All plutonium can be used directly in nuclear explosives. The concept of ... plutonium which is not suitable for explosives is fallacious. A high content of the plutonium 240 isotope (reactor-grade plutonium) is a complication, but not a preventative." (1976) Hans Blix, former IAEA Director General, had this to say: "The Agency considers high burn-up

Typical (i.e. not invariable) isotopic compositions for different grades of plutonium

Isotope	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242
% in weapons grade	0.05%	93.00%	6.40%	0.50%	0.05%
% in reactor grade	1.40%	56.50%	23.40%	13.90%	4.80%
% in MOX fuel	2%	42%	31%	14%	11%

Source IMA 1997, p.87

reactor-grade plutonium and in general plutonium of any isotopic composition ... to be capable of use in a nuclear explosive device. There is no debate on the matter in the Agency's Department of Safeguards." (1990) (see IMA Report page 92) Evidently then, Japan's plutonium could be used to make a nuclear weapon, even if the yield is lower and less predictable than for a weapon made of weapons grade plutonium (see table below).

Returning to the question of 'IAEA safeguards', most people, even the most skeptical and cynical, are probably lulled into a false sense of security when they hear this phrase. Such is the power of language. The language is almost never critiqued in the mainstream media, so few people ever find out what lies behind such a phrase. A News Watch article in NIT 101 discussed the effectiveness of IAEA safeguards at Rokkasho in some detail. To recap briefly, the conclusion was that, using the most advanced safeguards technology, each year enough plutonium to make at least 6 bombs could slip through the system without being detected. This is based on 8kg of plutonium to make one bomb and 50kg of plutonium unaccounted for. That this is a realistic figure is demonstrated by the fact that 30kg of plutonium could not be accounted for at Sellafield in 2004. The methods of measuring the quantities of plutonium going into the reprocessing plant and the quantities coming out are simply not accurate enough to ensure that these quantities will balance. This means that if small amounts of plutonium were deliberately diverted, the IAEA wouldn't notice. Furthermore, the checks are not carried out in real time, so even if it were possible to detect the diversion, enough plutonium could be removed before anyone noticed. Again, readers will find more on this

in the IMA Report.

The inescapable conclusion is that if Japan wanted to make a nuclear weapon it could. Furthermore, there is a reasonable chance that

it could keep this secret, even though all its known nuclear facilities are covered by IAEA safeguards. The fact that Japan has signed the Additional Protocol to the Non-Proliferation Treaty and implemented 'integrated safeguards' doesn't alter this situation, since the limitations on safeguards are not only a matter of access, they are also technical and probably insurmountable for a large scale reprocessing plant such as Rokkasho.

The answer to the first question posed above, whether the operation of the Rokkasho Reprocessing Plant could lead to Japan acquiring nuclear weapons, is clearly "yes", at least in terms of capability. In fact, Japan is already capable of making nuclear weapons, but Rokkasho will increase that capability and make international monitoring much more difficult. The second question was, might Rokkasho encourage others to acquire nuclear weapons? Although there is no way of knowing for sure whether the Rokkasho reprocessing plant has made or will make any difference to the decisions of others to produce nuclear weapons, it certainly provides them with excuses and justifications. We can argue that all their excuses and justifications are specious, but that is beside the point. Countries like North Korea and Iran repeatedly point to Japan, saying, "If Japan can have reprocessing and uranium enrichment, why can't we?" In Iran's case it can point to the double standards being applied and in North Korea's case it might also claim that it feels directly threatened. Their complaints don't have to be sincere. They strike a strong cord with countries outside the elite circles of the 'First World'. Most of these countries are very defensive about their 'right' to enjoy the benefits of the 'peaceful use' of nuclear technology. Rokkasho therefore provides an unhelpful example, which undermines the international consensus against proliferation.

An article about proliferation would be incomplete without a reference to the possibility of nuclear material being diverted to terrorists. The Japanese government has admitted that this is a risk by introducing legislation

designed to strengthen protective measures against just such a threat. CNIC has warned that these measures bring us closer to the nuclear police state that we have long feared, besides which it is inconceivable that they will be fool proof anyway. Clearly the safest approach is not to separate the plutonium in the first place.

The fact that Rokkasho is a nuclear proliferation issue is not discussed much in Japan. Overseas NGOs often seem more concerned about Rokkasho's proliferation potential than Japanese. CNIC hopes that Rokkasho will not escape attention at the NPT Review Conference in May. We are aware that a seminar is being planned and that people from both Japanese and non-Japanese NGOs will attend. We are also aware that the Japanese government is very sensitive about this issue, so we sincerely hope that this seminar will be a great embarrassment to them.

Philip White (NIT Editor)

Continued from page 3 panelists will then send their final assessment. This will be translated into Japanese. The Japanese panelists will add their comments and a final report will be released around June.

6. What do you hope to achieve?

The fact that the Interim Report is at variance with international debate will be made clear. This recognition will be shared by the Japanese mass media and policy makers (politicians). It might even become a factor in preventing the reprocessing plant from proceeding to the active trial phase.

7. Are there any additional comments you would like to direct to NIT's readers?

It is important to rally opposition to the reprocessing of spent fuel from a wide range of people, not just from those who are opposed to nuclear energy per se. We also want to hear the views of NIT readers about the New Nuclear Policy-Planning Council's Interim Report.

Super-Safe Reactor?

Toshiba hopes to install a 10 MWe sodium-cooled modular reactor in the town of Galena (population of about 700) on the Yukon River in Alaska. On 14 December 2004 the Galena City Council passed a resolution supporting the construction and operation of a 4S reactor, so named on the grounds that it is claimed to be super-safe, small and simple.

The 4S was developed jointly by Toshiba and the Central Research Institute of Electric Power Industry. Newspaper articles say the fuel will be enriched uranium, but other literature suggests that the fuel will be 24% plutonium. We contacted Toshiba to clarify this point and were told that the reactor is still under development, so no precise figures can be given. However, since 4S is a fast reactor, if it uses enriched uranium the enrichment level would need to be quite high. For example, two fast reactors currently operating on uranium fuel use an enrichment of 20% to 25% (David Albright, ISIS, October 8, 2004). Given that the core will not be changed during the reactor's lifetime, we would expect the level of enrichment to be at least this high. Criticality is maintained by a neutron-reflecting shield, which slowly slides over the core as the fuel is burned over the predicted 30-year life of the reactor.

There are environmental problems associated with diesel generators and the town hopes that for them the nuclear option will be more environmentally benign. Toshiba hopes to install the reactor free of charge as a demonstration project. Galena will only have to pay operating costs (mostly arising from the need to employ security guards), but estimates suggest that in this remote region 4S would be cheaper than the alternatives anyway. Currently diesel fuel is transported by river barge, but this is only possible in the summer months when the Yukon isn't frozen. The fact that 4S doesn't require refueling is therefore a major advantage.

Before the project can proceed, the design

must be certified by the US Nuclear Regulatory Commission. Toshiba hopes to submit an application for provisional certification this summer. If it succeeds in its application for NRC certification, Toshiba believes that there will be opportunities for sales worldwide. However, there are still many hoops that Toshiba has to go through before the project can proceed. For a start, Toshiba will have to prove that it has solved the problem of devastating accidents resulting from sodium leaks (compare the Monju FBR accident in 1995). This will be particularly challenging given that the reactor is supposed to operate without maintenance.

Cartoon by Shoji Takagi



4S Kebabs: Simple Safe and Super-Salty

Using plutonium or uranium enriched to around 20% or 25% raises proliferation issues. Despite claims that 4S is proliferation resistant, using plutonium or uranium means that there must be supplies of this type of fuel. Creating a new market for this type of fuel will inevitably create additional proliferation risks. There is also the nuclear waste problem, of course. Regardless of whether this burden is borne by Galena, there is still no solution to the problem of nuclear waste.

Significant opposition to the plan has already emerged. Platts Nuclear Flashes (2/14/2005) reported that *Continued on page 12*

Nuclear waste that can't keep its cool

Major problems have arisen with the cooling system of the vitrified high-level waste storage buildings at the Rokkasho nuclear fuel cycle facilities in Aomori Prefecture.

When complete, there will be a total of five storage buildings for vitrified high-level waste at Rokkasho. Of these, only one, 'Building A', is currently operational. It holds vitrified high-level waste canisters that have been returned after reprocessing of spent fuel overseas. It commenced operations in April 1995 and has the capacity to hold 1,440 canisters. There are already 892 canisters in storage there. However, the total number of canisters to be returned after reprocessing in France and England is 2,200, so an application was submitted to construct a new building (Building B) to hold the excess. Aside from these two buildings, there are also three buildings for the high-level waste generated at the Rokkasho Reprocessing Plant itself.

The safety inspection for building B was completed in 2003. However, when the detailed design was checked, it became apparent that there was a possibility that the cooling capacity was inadequate. The owner of the facility, Japan Nuclear Fuel Ltd. (JNFL), set a benchmark of 500°C for the canisters' maximum internal tem-

perature, but the Nuclear and Industrial Safety Agency's (NISA) analysis indicates that the temperature could exceed 600°C.

Design changed to reduce costs

Please refer to the diagram when reading the following account.

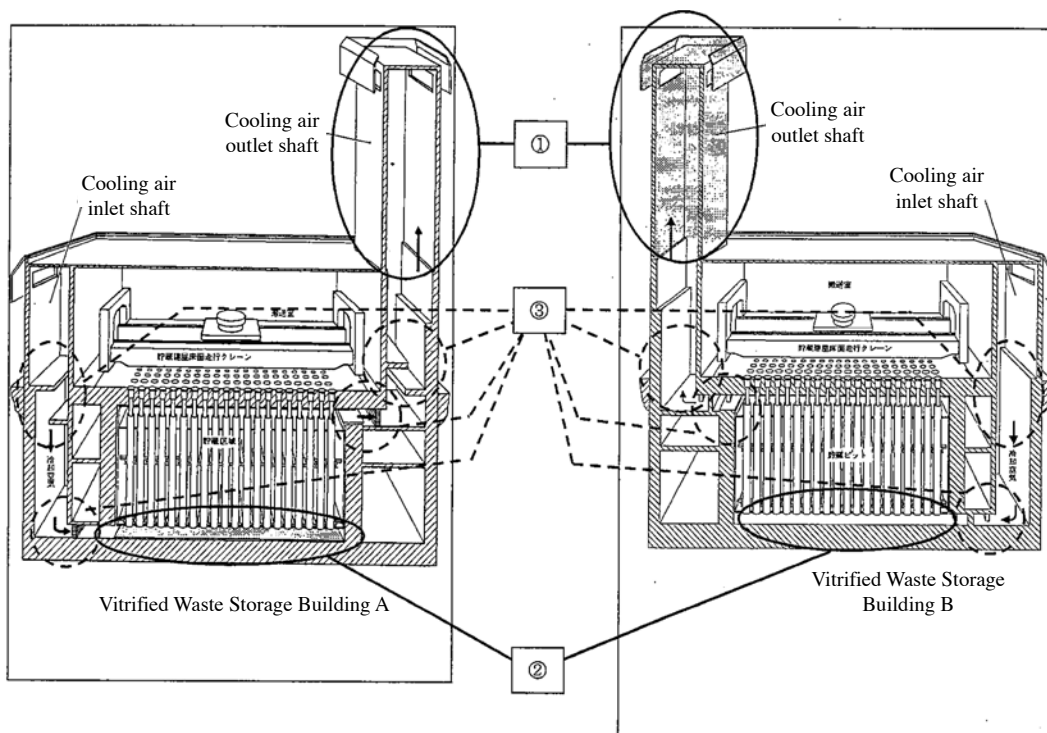
When the glass canisters arrive they are removed from the containers in which they were shipped. They are then placed vertically in containers in an underground storage pit. Each of these containers holds nine glass canisters. The facility is cooled by natural air flow. Air enters from the inlet shaft, moves along the bottom of the storage pit, goes around the outside of the containers and passes out of the top of the pit. It passes through a filter as it leaves the outlet shaft.

Buildings A and B use the same basic system, but there are three significant differences:

1. Whereas the cooling air outlet shaft in Building A is made of steel framed steel reinforced concrete, in the Building B design the steel reinforcement was removed to leave just steel framed concrete.
2. The steel plate on the floor of the storage pit was removed in the Building B design.
3. The positioning of the plates that the air flows past in the inlet and outlet shafts was changed and their orientation

was changed from horizontal to vertical in the Building B design. These plates are to screen out radiation from the glass canisters.

The three buildings for high-level waste generated at the Rokkasho Reprocessing Plant all have the same design problems as Building B.



Two of these have already been built and the third is currently undergoing safety inspections.

The changes made since Building A was approved - the reinforcement of the concrete, the floor plate and the plates in the inlet and outlet shafts - were all clearly cost cutting measures. When the Rokkasho Reprocessing Plant was approved in 1989, the construction costs were said to be 760 billion yen. However, in 1996 (construction began in 1993) there was a big reappraisal of the design and the costs. Due to rising costs, the refining process was reduced from two steps to one and the number of high level liquid waste tanks was reduced by 3. At the same time changes were made to the high-level vitrified waste storage buildings. They look the same as Building A, but safety has been sacrificed. Despite these cost-cutting measures, the construction costs had already ballooned to 1.88 trillion yen. (The cost of construction has continued to rise since then. Now it stands at 2.24 trillion yen. The total cost of construction, operation and dismantling the plant will be 11 trillion yen.)

Safety sacrificed

The Nuclear Safety Commission's (NSC) safety inspection of the reprocessing plant's vitrified waste storage buildings had already been completed. However, when NISA carried out a detailed inspection of the design it discovered that the analysis of the flow of air to cool the canisters had not taken into account the changes to the plates in the inlet and outlet shafts. The problem was exposed when, on 14 January 2005, NISA requested JNFL to redo its analysis. It became clear from JNFL's own analysis that the internal temperature of the glass canisters would exceed 500°C, reaching a maximum of 624°C. This has the potential to create a huge safety problem for the glass canisters.

These glass canisters are made by mixing borosilicate glass, which is said to be very hard, with high-level radioactive liquid waste, pouring this mixture into stainless steel canisters and allowing it to harden by cooling. The purpose is to seal the radioactivity in a more manageable solid matrix, by mixing this glass with the radioactive wastes. In liquid form the high-level radioactive waste is very difficult to handle. However, the energy released by radioactive decay

causes the temperature of the glass to rise. Even if it remains well below the melting point of the glass (1,150°C), once the temperature reaches the so-called transition temperature (450-500°C), the glass becomes rather similar to a liquid. Above 610°C crystals of borosilicate acid begin to form crystals and cracks may appear. As a result, the mechanical strength and resistance to erosion of the glass is reduced. Therefore, it is essential that the benchmark maximum temperature of 500°C is not exceeded.

Safety inspection can't be trusted

JNFL says that it will change the design of these facilities, including those that have already been built. However the biggest problem is that all of these facilities had already passed the safety review and been officially approved before the fault was discovered. Furthermore, NISA's check didn't verify all the important values in the original analysis. It makes one wonder what other yet-to-be-discovered safety problems lie lurking in the Rokkasho Reprocessing Plant?

Connection with uranium trials

The problem was exposed on 14 January 2005, just over three weeks after uranium trials commenced. However, we have since learnt that the problem was already known to NISA when the uranium trials commenced on December 21st. On 16 November 2004 NISA commissioned the Japan Nuclear Energy Safety Organization (JNES) to carry out a cross-check of the heat analysis for Building B. JNES reported to NISA on December 17th, four days before the uranium trials commenced. One can speculate as to what led NISA to commission JNES to do a cross-check in the first place. Did they already suspect that there was a problem? Once it was confirmed that there were problems, clearly NISA should have called a halt to the uranium tests. However, as it turned out, the problem was concealed until after the uranium trials started. So once again, costs and schedules are prioritized over safety issues.

By Masako Sawai (CNIC)

Stop Press: Commencement of commercial operations at the Rokkasho Reprocessing Plant has been postponed by 10 months to May 2007.

Anti-Nuclear Who's Who:

Environmentalist Sisters are Descendents of Sea Lord

By Shinji Watanabe*

In the 16th century, about 450 years ago during the 'Age of Civil Wars', the Seto Inland Sea was ruled by a feudal lord, called Sea Lord Murakami. The Lord protected trading ships from pirates, and made a name for himself in naval battles.

The maiden name of sisters Etsuko Abe and Kyoko Ono is Seno. The Seno family is descended from Sea Lord Murakami. The pride and the bloodline of the sea-dwelling people live on in the hearts of the sisters.

Etsuko Abe is a key person in the environmental preservation movement in Ehime Prefecture. Currently, as the Representative of the Pan-Seto Inland Sea Congress, she works on issues such as land reclamation, pollution prevention and law reform concerning the Seto Inland Sea. Further, as a reformist/citizen faction Member of the Ehime Prefectural Assembly, she continues to make bold statements, mainly on environment and education, including on issues related to the Ikata Nuclear Power Plant, such as the pluthermal¹ program and earthquake disaster prevention.

Often it is the case that a person gets involved in citizen movements as a result of a particular incident or opportunity. In Etsuko Abe's case, her daughter's primary school lunch (the movement to convert from mass production of school lunches at a central location, to small scale preparation of safe and delicious lunches at each school) was the decisive issue that led her down the path of environmental activism.

Meanwhile, her sister Kyoko Ono, who works with this author on local disaster prevention and natural environment preservation activities, first became involved in citizen movements at the time of the 'load following test' at Shikoku Electric's Ikata-2 reactor in 1988. At the time, she and other Ehime residents who wished to be free of nuclear power formed the Sayonara Nuclear Power Ehime Network, which continues its persistent work to this day.

Citizens living in prefectures with nuclear

power plant sites have increasing reason to be nervous. Not only is there a Level A undersea active fault located near the Ikata Nuclear Power



Kyoko Ono (left) and Etsuko Abe

Plant, which could move at anytime, but a major earthquake in the Nankai Region is also forecast. Other issues of concern are nuclear disasters, aging nuclear reactors, repeated accidents, and plans to adopt the pluthermal program from 2010. Kyoko Ono and others of the Sayonara Nuclear Power Ehime Network, along with Assembly Member, Etsuko Abe, have adopted every means possible to stand up against the reality before them, including repeated demands to Shikoku Electric, petitions to the Prefectural Assembly, distribution of fliers on the street, and demonstrations on site at Ikata.

These sisters' way of living has taught this author to never turn away from reality and that nothing will change unless he himself takes action.

1. Pluthermal refers to the burning of MOX fuel (mixed oxides of plutonium and uranium) in thermal (as opposed to fast) reactors.

*Shinji Watanabe is Office Director of the Ehime Environmental Network and a member of the Toon City Assembly, Ehime Prefecture

NEWS WATCH

Proposal to export total package: power generation and reprocessing

Kaoru Samejima, Executive Vice-President of the Central Research Institute of Electric Power Industry, recently proposed exporting a total package of nuclear power plants and reprocessing services. The proposal was made to the Panel on an International Vision for Nuclear Power (News Watch, NIT 104), which is made up of representatives from the nuclear power industry and related ministries.

The proposal envisions that three Light Water Reactors of about 500 MW would be built every five years. After 40 years, when the first reactor stops operating, they would be replaced by fast reactors of the same capacity, one by one, as the reactors reach the end of their operating lives. Meanwhile, uranium, plutonium and minor actinides would be extracted from the spent fuel produced in the LWRs. They would be extracted in a mixed form using non-aqueous reprocessing and be made into metallic fuel for fast reactors.

The content of the proposal is fanciful, but it reflects the ineluctable reality that reactors on their own are a hard sell.

Mitsubishi Heavy Industries, Ltd. bids for nuclear plants in China

International bidding for China's Yangjian and Sanmen nuclear power plants (2 x 1,000 MW each) closed on February 28. Mitsubishi Heavy Industries (MHI) teamed with Westinghouse of the U.S. to make a bid. They hope to win an order for all four reactors. Westinghouse-MHI offered the AP1000 (Advanced Pressurized Water Reactor), while their rival, FRAMATOME, offered its EPWR (European Pressurized Water Reactor). It is believed that

the reactor chosen by the Chinese Government this time will be adopted as the future standard type. On behalf of the Japanese government, the Minister of Economy, Trade and Industry sent a letter to two Chinese Vice-Premiers recommending the Westinghouse-MHI consortium. This is the first time such an action has been taken by the Japanese government. China plans to start construction in about 2007.

Preparations Begin for Monju Reconstruction

Preparations for modifications to Monju (Tsuruga, Fukui Prefecture), the 280 MW Fast Breeder Prototype Reactor whose operation has been halted for over nine years since the sodium leak accident of December of 1995, began from March 1st and are aimed at the restarting of operation. The preparatory phase will include the bringing in of building materials, removal of lighting, and the installment of a temporary power supply. The main work is planned from this September through February of 2007, and will include removal and replacement of the temperature gauge that was the cause of the accident, and enlargement of the caliber of discharge piping for any future sodium leaks. According to Japan Nuclear Cycle Development Institute (JNC), plans are being laid for conducting various tests before resuming operations around February of 2008, and moving on to performance testing.

Calls have erupted among Fukui Prefecture residents concerning these developments, demanding that modifications must await the decision of the Supreme Court regarding the High Court ruling that the approval to build the reactor was invalid. Oral arguments were heard at the Supreme Court on March 17th, and a ruling could be made in a couple of months time.

Continued from page 7 one of the member tribes of the Yukon River Inter-Tribal Watershed Council (an organization of 58 indigenous governments committed to protecting the Yukon River Watershed) has passed a resolution calling for a moratorium on experimental reactors and radioactive waste. Other tribes were in the process of drafting resolutions. Apparently they appealed to NRC about the matter, but NRC responded that it cannot kill a reactor project if it meets agency regulations.

If the reactor is installed, which probably won't be before 2010, it will have the potential to supply much more electricity than Galena now uses. Proponents say it could be used to

produce hydrogen. Galena could become a focus for the much discussed hydrogen economy. For the moment, however, the town is not getting carried away. According to Galena City Manager, Marvin Yoder, the council could stop the project simply by taking no action at any of the biannual review points. Let's hope so, but in the meantime this is a case worth watching, particularly considering the risk that these small reactors might proliferate.

Philip White (NIT editor)

Map of places mentioned in NIT 105



Printed on 100% recycled paper

Nuke Info Tokyo is a bi-monthly newsletter that aims to provide foreign friends with up-to-date information on the Japanese nuclear industry as well as on the movements against it. Please write to us for a subscription (Regular subscriber - \$30 or ¥3,000/year; supporting subscriber \$50 or ¥5,000/year). When paying in Japan, the subscription fee should be remitted from a post office to our post office account No. 00140-3-63145, Genshiryoku Shiryou Jouhoushitsu. Due to costly processing fees on personal checks, when sending the subscription fee from overseas, please send it by international postal money order. We would also appreciate receiving information and newsletters from groups abroad in exchange for this newsletter.

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