Rokkasho Nuclear Fuel Reprocessing Facility
NRA Breaks off Regulatory Standard Conformity Inspection

Safety Regulation Violations Continue to Occur
The regular meeting of the Nuclear Regulation Authority (NRA) on October 11, 2017 indicated multiple safety code violations by Japan Nuclear Fuel, Limited (JNFL), operator of the Rokkasho Reprocessing Plant, including problems with rainwater flowing into the reprocessing plant’s emergency power supply buildings and ventilation duct corrosion in the uranium concentration facilities. The safety codes are a set of bylaws that nuclear power plant (NPP) operators are supposed to observe in their work. These govern inspections, maintenance and supervision, basic items for ensuring safety such as educating employees on operational safety, and methods of responding in the case of accidents. The operators are required to prepare a safety code prior to commencing operations and have it approved by the NRA. It has been pointed out that these minimal rules are not being observed at any of JNFL’s facilities (the Rokkasho reprocessing facility has not received formal authorization for operation, but safety regulations for test operations are being applied). JNFL’s President Kudo, who attended the meeting, apologized for his company’s sloppy safety management system, saying, “We will delay submission of the required paperwork for the reprocessing plant’s new regulatory standard conformity inspection for the time being.” For all practical purposes, this amounts to a request by the business for suspension of the conformity inspection. In response, the NRA decided to suspend inspections, including hearings, for all of JNFL’s facilities (reprocessing plant, MOX fuel plant and storage facilities for high-level vitrified waste).

No Inspections of Emergency Power Supply
During the Fukushima Daiichi nuclear accident in March 2011, a tsunami penetrated the buildings that held the emergency generators, submerging them. The result was a total station blackout that progressed into the nuclear fuel meltdown. The new regulatory standards that went into effect in 2013 place importance on ensuring the safety of emergency power sources, drawing on the biggest lesson from the accident. An emergency power source for the spent fuel pool and another one for the plant itself (two diesel generators with capacities of about 7,000 kW each) had been installed at the Rokkasho reprocessing plant.

These diesel generators for the plant had been installed above ground on the first floor, while the pumps supplying the fuel to them were on the first basement floor underground. In August 2017, an accident occurred at the plant in which 800 liters of rainwater pooled in a piping pit outside the building that held the fuel supply pipes flowed into the building. JNFL, however, was lax in their response to the accident, saying, “It has no effect on the facility.” An investigation performed later, however, revealed that 1) in the 14 years since the facilities were built, not once had the inspection port for the Rokkasho Nuclear Fuel Reprocessing Facility

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piping pit been opened, and no inspection of the pipes had been conducted; 2) inspection results were entered into the inspection logbook as prescribed, as “no abnormalities found”—JNFL had mistaken a cable pit for the piping pit adjacent to it; 3) although photos were taken during site inspections in which traces of leakage could be distinguished, reports were written that said no problems had been found; and so on. This conduct is in complete violation of the safety code.

Ducts Neglected for 25 Years
An accident at Chugoku Electric Power Co.’s Shimane NPP that resulted from corrosion of ventilation ducts motivated the NRA to instruct all NPP operators to inspect the ventilation ducts. JNFL began checking the supply and exhaust ducts at its uranium enrichment plant in January 2017. The results showed that seven of 14 draft chambers (devices providing local ventilation) and one ventilation duct hood installed in the attic of the plant’s analysis room were practically nonfunctional, with holes of 20 cm² in the ducts due to corrosion. These ducts were made of galvanized steel, but rust, discoloration and corrosion were recognized in 48 places overall in the ducts. Although the ventilation system of the quality analysis equipment in the analysis room (circular ducts made of PVC with a diameter of 25 cm) are supposed to be connected to the buildings’ ventilation system via ventilation ducts, they had not been connected anywhere. JNFL had not inspected these ducts even once in the 25 years since 1992, when it began running the plant.

Nuclear Power Regulatory Administration Questioned
For 14 years in one case, and 25 in another, inspection and management lapses that would be inconceivable at normal plant facilities were occurring at JNFL’s nuclear power facilities. The fact is clear that even emergency power supply equipment and other facilities crucial to safety were not being managed stringently. “To address laxity in taking full control over and managing the plant,” President Kudo noted, JNFL would take action to confirm the integrity of all of its facilities. For example, at the reprocessing plant, it would get a grasp of all of the machinery, said to number about 600,000 units overall, and take action to confirm its safety, restoring the facilities to “a managed condition.”

We cannot hide our surprise that even the number of machines in their possession has not been registered, and that even the inspection work they undertook after that has gone more slowly than planned. How would it be possible for JNFL, who could not accomplish the prescribed management for more than twenty years, to pull it off in just a few months? This is a problem more of the capability of the business itself, going beyond its faulty safety confirmations. Moreover, we must question the capacity of Japan’s nuclear power regulatory authorities. Over these twenty years there has been a succession of three different regulatory organizations, and the present situation at Rokkasho shows that all of them have failed to do their job.

24th Delay in Operations
JNFL acquired its business operator designation (building permit) for the Rokkasho Nuclear Fuel Reprocessing Facility in March 1991, and began construction in 1993. Twenty-five years have passed since then. Initially, the date of completion was scheduled for 1999.

JNFL announced on December 22, 2017 that it would again delay the scheduled date of operations at the Rokkasho reprocessing plant. The scheduled start of operations has been postponed by three years from the present year, 2018, to 2021. This constitutes the 24th delay, and brings the plan to more than 20 years past the original schedule. This schedule is based on the assumption that all of the tasks such as completing the regulatory standards inspection and passing tests on vitrified waste production, can be handled in about three years. Even the people at the NRA in charge of inspecting the reprocessing plant have called it “an optimistic schedule,” thus their plan has low feasibility and a high likelihood of further delays. In particular, the accidents, troubles and safety code violations at the Rokkasho reprocessing plant indicate that the facilities have already deteriorated notably through aging. Under these conditions, even the regulatory authorities have concerns about proceeding to full-scale operation as things stand.

<Masako Sawai, CNIC>
On December 13, 2017, the Hiroshima High Court ordered a temporary injunction suspending operations at Shikoku Electric Power Company’s Ikata NPP Unit 3. It is the first time that a Japanese high court has issued a judicial ruling that suspends operations at a nuclear power plant. The temporary injunction took effect immediately and Shikoku Electric Power has become unable to run the reactor. The High Court ruling, on the other hand, states that the period of the suspension shall expire on September 30 this year, pointing out that there were restrictions on the procedure for examination of evidence concerning this injunction and that the Hiroshima District Court, where another lawsuit seeking the suspension of the Ikata NPP has been filed, may deliver a different decision.

The Hiroshima High Court ruling judged that if Mt. Aso, an active volcano located about 130 kilometers from Ikata NPP Unit 3, erupts cataclysmically, pyroclastic flows may reach the NPP, and that Shikoku Electric Power failed to prove the safety of the reactor in such a situation. The Japanese Nuclear Regulation Authority (NRA) had confirmed that Ikata Unit 3 complies with the new safety regulations concerning the influence of volcanic events, but the High Court ruling judges the NRA’s confirmation illegitimate and ruled that Unit 3 should be suspended. The ruling nevertheless states that the new safety regulations are legitimate concerning measures against earthquakes and terrorist attacks and that Unit 3 complies with the regulations concerning those risks. The High Court ruling thus supported the NRA’s approval of Unit 3 in these respects.

The Ikata NPP is located on Ehime Prefecture’s Cape Sata Peninsula, facing the Seto Inland Sea, in the southwestern part of Japan. The plant originally had three reactors, and among them, Unit 1 (PWR, 56.6 kW), which started operations in September 1977, discontinued service in May 2016 and is scheduled to be decommissioned. The plant currently has two operable reactors: Unit 2 (PWR, 56.6 kW, start of operation March 1982) and Unit 3 (PWR, 89.0 kW, December 1994). Unit 3 is one of the five reactors whose operations restarted earliest in Japan after the Fukushima Daiichi NPS accident. The reactor restarted in August 2016, loaded partially with MOX fuel.

In response to the forthcoming restart of the Unit 3 reactor, residents living within 100 kilometers of Ikata NPP (including those living in Hiroshima City and Matsuyama City) filed a petition for a temporary injunction to suspend its operations with the Hiroshima District Court in March 2016, citing the dangers of the Ikata NPP and questioning the legitimacy of the NRA’s new regulations. The Hiroshima District Court turned down the petition in March 2017, and the residents filed an immediate appeal to the Hiroshima High Court.

Concerning the date of expiry to the period of suspension set by the High Court, the plaintiff attorneys say that the other lawsuit at the Hiroshima District Court has just started and that there is almost no possibility that any ruling will be issued before the expiry of the suspension period, and that therefore the High Court ruling is illegitimate in this respect. Temporary injunctions seeking the suspension of Ikata Unit 3 have also been filed in Ehime, Oita and Yamaguchi Prefectures along with Hiroshima, and this recent ruling at the Hiroshima High Court will influence the ensuing rulings.

In response to the Hiroshima High Court ruling, Shikoku Electric Power has taken judicial actions seeking the overturning of the ruling, including filing for a stay of the execution of the temporary injunction and an objection to the temporary injunction. Ikata Unit 3 had entered a regular inspection period in October 2017 and was scheduled to restart at the end of January 2018, but is currently in a state of standstill.

<Masako Sawai, CNIC>
Recognition of Exposed Workers in Japan and France

A report on an international survey and participation in the World Social Forum

Recognition of Workers’ Compensation Claims of Nuclear Power Plant Workers in Japan and the Beginning of an International Comparative Survey

The number of workers registered under the Exposure Dose Registration and Management System up to just prior to the Fukushima Daiichi Nuclear Power Station (FDNPS) accident was roughly 500,000, but there were a mere 13 cases of recognition of workers’ compensation claims due to exposure. That claims recognition were so few is not because nuclear power plant work is safe. As well as the difficulty of proving causality between late-onset disorders and work duties in the first place, the hurdle of conditions for recognition are high and not a few people abandon the compensation claim application itself. Even in cases where an exposure accident is suspected, there are a large number of rumors concerning examples of failure to apply due to private settlements in which the power company or employer has made a ‘consolation payment’ to the victims.

Thus far, the government and power companies or nuclear power plant companies have almost totally withheld from publication information on the actualities of health effects or accidents involving workers and even now the realities of the suffering are unclear. In addition to the abovementioned 13 persons recognized, the three persons who received recognition following the JCO criticality accident and four persons whose claims for compensation have been recognized during the work to bring the FDNPS accident to an end and the decommissioning cleanup are included in the list given in Table. 1 (p.6-7). This table is a CNIC summary based on information gained through surveys of various activist organizations or by negotiation; the government does not publicize data in this form. In particular, it is difficult to get an accurate picture of cases whose claims have not been recognized, and this inhibits discussion of the nature of safety management and recognition for workers’ compensation claims. This is a huge issue that impedes discussions of whether or not nuclear power stations should be tolerated.

Our Radiation-exposed Workers Solidarity Network invited guests from France, Ukraine and South Korea to the first Anti-nuclear World Social Forum, held in Japan in March 2016, at which an international symposium on the exposed workers issue was held (see Nuke Info Tokyo No.172). It became clear at the symposium that the whole picture of the exposed workers issue was unclear and sufficient efforts had not been made, not only in Japan but also in other countries.

From FY2017, we then received a grant from the Takagi Jinzaburo Citizens’ Science Foundation to begin an International Survey on the Work Safety and Compensation System for Nuclear Power Station Workers and the Realities of Exposed Workers’ Accidents (representative, Mikiko Watanabe). This is a comparative survey of the legal system and the realities of safety management and accident compensation claim recognition for nuclear power plant workers in the five countries, France, Germany, Ukraine, South Korea and Japan. The Radiation-exposed Workers Solidarity Network is playing a central role in making efforts for the survey research by cooperating with researchers and specialists on the exposed workers issue inside Japan as well as the joint researchers in each country.

France’s worker compensation claim system

In November of last year (2017), taking the opportunity of the third Anti-nuclear World Social Forum, held in Paris, four members participating in this international comparative research travelled to France, meeting up with joint researchers from Germany to conduct an interview survey in France. Interviews were conducted with and materials received from a former Alternative Energies and Atomic Energy Commission (CEA) engineer and researcher who was also a former full-time trade union official, a former nuclear power plant worker who is a specialist in occupational disease and health issues, and a number of nuclear power plant workers.

In France, employers measure doses received by workers by use of badge dosimeters, which are sent to the state organization L’Institut de Radioprotection et de Sûreté Nucléaire (IRSN) each month for unified management. The employer bears the responsibility for dose management, and the industrial doctor of each employer has access to the doses received by workers and gives advice on employment and work content. The upper limit of worker dose rates is 20mSv in the most recent 12 months, and it is the management responsibility of the industrial doctor to ensure that doses do not exceed this limit.

France regulates occupational diseases caused by 118 kinds of harmful substances, these being summarized in a table, which also includes occupational diseases caused by exposure to radiation. In the case of appearances of the diseases mentioned in the table, if requirements such as time of appearance of the disease are fulfilled and a certificate is issued by an industrial doctor, this is systematically recognized.
upon application to the local government. Since it is difficult to prove causality between exposure and the onset of disease, “probable cause,” which recognizes the relationship between the disease and the fact of having been present at a nuclear site, is invoked, and if causality is a possibility, this will be recognized even if the person involved is unable to prove causality. There is no regulation defining a certain dose as a condition of recognition, and, for example, if it is known that a person who has contracted leukemia worked at a nuclear power station, causality will be recognized even if the recorded dose is 0mSv. The content of worker claim compensation is roughly the same as that in Japan, and additionally, it is also possible for the worker to initiate a trial to demand further compensation. Trials basically question the employer’s liability for negligence and do not contest the content or causality of an occupational disease that has already been recognized.

As seen above, there are many points which differ from the system in Japan, and especially surprising is that there is no conditional dose for the recognition of exposed workers’ compensation claims and that probable cause is invoked to recognize causality without any further proof.

The French National Health Insurance Fund for Salaried Workers (Caisse nationale de l'assurance maladie des travailleurs salariés / CNAMTS) also publicizes data on the number of cases of recognition of occupational diseases. Around an annual 22 persons recognized as suffering from radiation-induced occupational diseases can be extracted from these statistics in recent years, of which there are around 15 cases per year of cancer (Zerbib Jean Claude, unpublished data). However, not only are the details of each case unclear, it has also been pointed out that there would probably be a larger number of cases if subcontracted workers were included. Further, many workers do not know about the workers’ compensation claim application system and it was thought that actual suffering is therefore not limited to the numbers mentioned above.

Along with a report on the current state of Japan’s exposed workers, we also took with us to France materials on recognition of workers’ compensation claims in Japan (Table 1). Looking at the table, our French interviewees, as well as expressing surprise at the small number of cases recognized in Japan, told us that there was also no published data summarizing exposed workers’ compensation claims in France and pointed out the importance of such a table being drawn up. We hope to further deepen this joint comparative survey research in the future.

### Participation in the Anti-Nuke World Social Forum

While conducting this survey, we also participated in the third Antinuclear World Social Forum, held in Paris from November 2 to 4. In the forum we organised one joint workshop, and two persons (Minoru Ikeda and Nasubi) gave reports on 1) the work to bring the FDNPS accident to an end and the decommissioning cleanup there and 2) the current state of and worker issues in the decontamination work, engaging in discussion and exchanges of information with the participants from many countries. In particular, there was high participant interest in the trial initiated by “Arakabu-san,” whose claim for workers’ compensation due to leukemia is the first to be recognized in the post-accident FDNPS operations, and who is now demanding compensation from Tokyo Electric Power Company (TEPCO) and Kyushu Electric Power Company (KYUDEN). The support T-shirts and button badges prepared for the meeting were soon sold out. At the closing meeting on the final day, an international solidarity resolution in solidarity with “Arakabu-san,” demanding compensation for damages from TEPCO and KYUDEN was proposed, and adopted in the joint names of the organizations participating in the forum. I would like to express my gratitude here to the French participants and Ms. Nanako Inaba for preparing and presenting the draft resolution.

<Nasubi, Radiation-exposed Workers Solidarity Network>
<table>
<thead>
<tr>
<th>Date of application</th>
<th>Decision/result</th>
<th>Name of disease</th>
<th>Exposure dose (time period)</th>
<th>Comments [Branch of Labor Standards Inspection Office applied to] etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 Mar. 1975</td>
<td>not recognized 19 Dec. 1975</td>
<td>skin infection</td>
<td></td>
<td>Tsuruga NPS, Plumbing work</td>
</tr>
<tr>
<td>31 May 1982</td>
<td>not recognized</td>
<td>leukemic malignant lymphoma</td>
<td></td>
<td>[Matsue]</td>
</tr>
<tr>
<td>27 May 1996</td>
<td>not recognized</td>
<td>hypoplastic anemia</td>
<td></td>
<td>[Tomioioka]</td>
</tr>
<tr>
<td>16 May 1997</td>
<td>not recognized</td>
<td>chronic myeloid leukemia</td>
<td></td>
<td>[Tomioioka]</td>
</tr>
<tr>
<td>20 Oct. 1999</td>
<td>recognized</td>
<td>acute radiation disease</td>
<td>6 ~ 10Sv</td>
<td>[Mito] JCO Tokai Plant</td>
</tr>
<tr>
<td>20 Nov. 1999</td>
<td>recognized 24 Oct. 2000</td>
<td>acute monocytic leukemia (a type of acute myeloid leukemia)</td>
<td>74.9mSv (11 years &amp; Oct. 1988 ~ Oct. 1999)</td>
<td>[Tomioioka] NPS: Fukushima Daiichi, Daini, Tokai etc, welding work. Disease discovered at voluntary medical examination, when reported to TEPCO, the reply was &quot;the patient's exposure is below the legal limit of 100 mSv in 5 years, so TEPCO bears no responsibility.&quot;</td>
</tr>
<tr>
<td>Date of application</td>
<td>Decision/result</td>
<td>Name of disease</td>
<td>Exposure dose (time period)</td>
<td>Comments [Branch of Labor Standards Inspection Office applied to] etc.</td>
</tr>
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<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>18 Jan. 2008</td>
<td>recognized Feb. 2010</td>
<td>multiple myeloma</td>
<td>65mSv</td>
<td>Unknown (Fukuoka Prefecture)</td>
</tr>
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<td>4 Dec. 2008</td>
<td>recognized Jul. 2010</td>
<td>malignant lymphoma</td>
<td>78.9mSv</td>
<td>Unknown (Nagasaki Prefecture)</td>
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<td>Dec. 2008</td>
<td>not recognized May 2010</td>
<td>malignant lymphoma</td>
<td></td>
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<td>Dec. 2008</td>
<td>not recognized May 2010</td>
<td>malignant lymphoma</td>
<td></td>
<td>Unknown (Fukui Prefecture)</td>
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<tr>
<td>21 Mar. 2009</td>
<td>not recognized</td>
<td>malignant lymphoma</td>
<td></td>
<td>Unknown (Fukui Prefecture)</td>
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<td>19 Oct 2009</td>
<td>recognized Feb. 2011</td>
<td>myeloid leukemia</td>
<td>5.2mSv</td>
<td>Unknown (Fukuoka Prefecture)</td>
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<tr>
<td>Dec. 2009</td>
<td>recognized 2011</td>
<td>malignant lymphoma</td>
<td>175.2mSv</td>
<td>Unknown (Kanagawa Prefecture)</td>
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<td>Dec. 2009</td>
<td>recognized FY2012</td>
<td>malignant lymphoma</td>
<td>138.5mSv</td>
<td>Unknown (Fukushima Prefecture)</td>
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<td>Aug. 2013</td>
<td>not recognized Jan. 2015</td>
<td>bladder, stomach and colon cancer (contracted seperately)</td>
<td>56.41mSv (4 months, 2011.July ~ Oct.)</td>
<td>58 year old male employee. NPS: Fukushima Daiichi, debris removal, etc. Worker’s Compensation Administrative Lawsuit filed under Nuclear Liability Law against TEPCO and as violation of safety responsibility against Taisei Corp and other construction companies on 1 Sep 2015</td>
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<td>not disclosed</td>
<td>recognized 19 Aug. 2016</td>
<td>acute myeloid leukemia</td>
<td>54.4mSv (3 years &amp; 9 months, April 2011 ~ Jan. 2015)</td>
<td>[Fukushima] NPS: Fukushima Daiichi, Machinery repair work, male employee in his 50s</td>
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<tr>
<td>not disclosed</td>
<td>recognized 16 Dec. 2016</td>
<td>thyroid cancer</td>
<td>149.6 mSv (20 years until 2012, of which 139.12 mSv when engaged in restoration work at F-1, Mar. 2011 ~ April 2012)</td>
<td>[Tomioka] TEPCO male employee in his 40s, former operator at Fukushima Daiichi, Thyroid cancer recognised under Ministry of Health, Labor and Welfare Ministry Guidelines</td>
</tr>
<tr>
<td>not disclosed</td>
<td>recognized 13 Dec. 2017</td>
<td>myeloid leukemia</td>
<td>99.3 mSv (approx. 91 mSv when engaged in emergency work from Mar. ~ Dec. 2011, approx. 5 mSv from Jan. 2012 ~ Feb. 2016, approx 3.3 mSv before accident)</td>
<td>[Tomioka] TEPCO male employee in his 40s, former emergency worker at Fukushima Daiichi Units 1 &amp; 3, flood control and confirming tsunami damage</td>
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</tbody>
</table>

*Post Fukushima Daiichi Accident, 16 claims for worker’s compensation due to cancer diagnosis have been lodged; 2 have been rejected and 5 are under consideration (as of 31 Dec 2017)  
Compiled by Citizens’ Nuclear Information Center, December 2017
Tokai II Nuclear Power Plant's 20 year extension
~ A story of economic inefficiency and passing the buck

On 28 November this year, the Tokai II NPP will turn 40. On 24 November last year, its operator, Japan Atomic Power Company (JAPC) applied to the Nuclear Regulation Authority (NRA) for a 20 year extension of operations, which would enable Tokai II to run until 2038. The NRA finished safety inspections last October and was preparing to issue a certificate of compliance to the new safety regulations, a prerequisite for granting the 20 year extension, followed by the extended license in April this year. However, at the final stage of proceedings (on 14 November 2017) in order to confirm the financial base of the NPP, the NRA requested an 'exceptional disclosure': the guarantor of the 174 billion yen loan that JAPC would be taking out in order to make the necessary safety upgrades.

In 2012, a group of us from Ibaraki Prefecture (where Tokai II is located) as well as eight other prefectures launched a class action lawsuit demanding an injunction on operations at Tokai II. One of our claims was that JAPC did not have an adequate financial base and its operations were therefore illegal. One of the causes of JAPC’s worsening business situation is the emergence of decommissioning costs and reprocessing of spent fuel costs which had, until now, been hidden in utility's accounting. Below is a report of claims put forward by the citizens' lawsuit regarding the accounting procedure for decommissioning and JAPC’s business situation.

Reforms to the 'NPP Decommissioning Accounting' system
The International Financial Reporting Standard (IFRS) Foundation's accounting system for Asset Retirement Obligations was implemented in Japan in 2010. After the introduction of this standard, what used to appear on utility balance sheets as 'reserve fund for dismantling' became 'asset retirement obligations.' Under this standard, in principle, liabilities should be compensated by assets, but the Ministry of Economics, Trade and Industry (METI), in an attempt to veil the insufficiency in reserve funds for decommissioning, issued a ministerial ordinance which allowed utilities to allocate funds for dismantling NPPs based on how much electricity they had generated in a given period. Unfortunately, the following year, 2011, NPPs nationwide were shut down in the aftermath of the Fukushima Daiiichi disaster, also bringing collection of reserve funds to a standstill. Somewhat in a panic, in October 2013, METI again reformed the accounting regulations for electricity utilities, setting a fixed amount to be reserved for decommissioning. To deal with the lack of sufficient funds to decommission reactors when they are shut down, they also allowed utilities to pass on decommissioning costs to consumers via their electricity bills, even after the reactor had ceased to generate electricity.

In 2013, we claimed in court that this kind of special arrangement by the national government is flouting business accounting standards.

National policy forcing spent fuel reprocessing
Another hidden cost of nuclear power generation is the processing of spent nuclear fuel, that is 'backend costs,' which include temporary storage, reprocessing and final disposal. 'Reprocessing' is a national policy which has clearly failed. It is said to cost nearly three times more than final disposal.

Up until recently, the cost of reprocessing was paid by each utility making contributions to the Radioactive Waste Management Funding and Research Center, (the accumulated funds belonging to the utilities) which was in turn paid to Japan Nuclear Fuel Ltd. (JNFL) to run the Rokkasho Reprocessing Plant. However, after the Fukushima Daiichi disaster, there was concern that some utilities may collapse, ending the guarantee of payments for reprocessing. So in 2016 the government set up a new body called the Nuclear Reprocessing Organization (NuRO) which utilities were legally bound to pay into, thereby bringing the state in control of managing reprocessing funds.

Entries such as 'fund for spent fuel reprocessing' have thus disappeared from utility's balance sheets, replaced in their profit and loss statement with an 'expense' paid to a state entity, which is relative to electricity generated in regular set periods. If there are insufficient reserve funds, it is simply written off as a 'reprocessing account payable.' 'Final disposal costs' also do not appear on utility profit and loss statements, as this is now similarly handled by NUMO (Nuclear Waste Management Organization), set up by the government in 2000.

JAPC is already a failed company
1) The worsening financial structure crisis of 2010
The management balance that JAPC had maintained up until 2010 collapsed in that year. This collapse was triggered by a capital injection of 30.3 billion yen to JNFL to overcome the fund shortage at Rokkasho Reprocessing Plant, which was agreed to by each utility. In other words, supporting the national policy of reprocessing broke the business balance of the utility. Due to the introduction of the new accounting standard, other decommissioning costs, the 'dismantling reserve fund' of 143.2 billion yen became the 'asset retirement obligations' of 205.8 billion yen.

Also, in this year before the nuclear disaster, JAPC invested 58.9 billion yen on Tsuruga NPP Units 3 and 4. Along with other construction expenses and loan repayments, JAPC received 188.8 billion yen in external financing. At the end of the 2010 fiscal year (March 2011) JAPC’s interest payments on loans was 83.4
Since the change in accounting standard and the media that JAPC had a serious shortage of cash. At the same time, METI leaked information to the utilities that are the shareholders of JAPC. They should therefore finance the restart of Tokai II by increasing equity capital' or 'JAPC should be bailed out by TEPCO acquiring Tokai II and KEPCO acquiring Tsuruga.' It's their last gasp.

2) From 2011, a growing cash crunch
The Great Eastern Japan Earthquake and Tsunami in 2011 put further pressure on operations, JAPC having to make emergency safety modifications as demanded by the Nuclear and Industrial Safety Agency, which meant short term operating funds all but dried up. JAPC tried various ways of raising cash throughout 2011 and 2012, including selling 7.8 billion yen worth of uranium fuel and taking out a short term loan of 104 billion yen to cover running costs, but in April 2013, the deadline for repayment of the loan, JAPC had only 68 billion yen in available cash. By the end of 2013, there was talk of a possible bankruptcy.

In order to secure another loan, the lending banks demanded that the outstanding loan of 104 billion yen be guaranteed by four other utilities, including Kansai Electric Power Co. (KEPCO), which was arranged by the Chair of the Federation of Electric Power Companies (Denjiren). This enabled JAPC to avoid a cash crisis but this loan guarantee has continued every year since. JAPC also owes 83 billion yen in reprocessing fees which they must pay to NuRO over the next three years. At the end of the fiscal year (March 2017) closure of accounts, JAPC had only 14.1 billion yen in cash.

3) Raising funds for measures to fulfill the new safety regulations
The cost of improving safety measures at Tokai II shot up from 43 billion yen to 174 billion yen when the NRA inspections showed that additional equipment would be required. JAPC must show that they can secure a loan to cover these costs if they are to receive approval for the extension of operations.

4) Thinning responsibility and passing the buck
The NRA Chair, Mr. Fuketa, commented in November last year that the condition, which JAPC must fulfill, is limited to securing a loan only for the safety measures, and it is really the responsibility of Denjiren, as a 'parent company' to ensure the safety and future business as 'shareholders.' He also mentioned that METI was also responsible as they have administrative jurisdiction over the entire enterprise. Mr. Fuketa showed openly how responsibility is passed on.

Denjiren’s Chair responded by saying that the utilities would come up with something if a concrete fundraising plan was presented to them, and that as ‘shareholders’ they want Tokai to restart as soon as possible so finances can be stabilized.

The same time, METI leaked information to the media that JAPC had a serious shortage of decommissioning funds because they had diverted their reserve funds to construction work at Tsuruga Units 3 and 4. It is not exactly true to say that they ‘diverted their reserve funds.’ Since the change in accounting standard there is no such thing as 'decommissioning funds,' and therefore one can only look at the balance between debts and assets. However, almost all of JAPC’s present fixed assets will have lost their value before decommissioning. At the same time, decommissioning costs will extend into the long term but JAPC’s ability to generate cash is in serious doubt. Already the financing they receive is not for decommissioning, so if they were to shift that cost onto power bills again, it would be double-dipping, that is, forcing customers to pay twice. The message that METI is trying to send by leaking such information to the media is 'Utilities are the shareholders of JAPC. They should therefore finance the restart of Tokai II by increasing equity capital' or 'JAPC should be bailed out by TEPCO acquiring Tokai II and KEPCO acquiring Tsuruga.' It's their last gasp.

5) JAPC is the 'subsidiary' of TEPCO and the utilities? Tokai II is the 'product' of their joint research?
JAPC is the public/private golden child of the nine utilities and J–Power, which was then a public entity. It has now ended this role and is instead showing us the end of the road for the 'nuclear power specialist model company,' as the structural problems with nuclear power profitability come to the surface.

JAPC has claimed in court that they are a subsidiary of TEPCO and KEPCO and that Tokai II is the product of joint research of TEPCO and Tohoku Electric. That is why it is only natural that these utilities cover maintenance costs while they are shut down and investment costs to get them restarted and even decommissioning costs when the time comes. The plaintiffs are demanding that utilities sign a basic agreement setting out who will pay costs after Tokai II is shut down.

Conclusion
The tug-of-war over restarts of NPPs in Japan since the Fukushima Daiichi accident which started in western Japan has finally reached eastern Japan and the capital area where people experienced the disaster first hand.

The restart of Tokai II starkly shows the contradictions inherent in nuclear power. What is becoming increasingly obvious here in Japan is the shirking of responsibility on the part of the government, the NRA commissioners and the utilities. As the miserable end of public/private nuclear power generation, after a half century, draws closer, Tokai II clearly shows the battle lines between electricity capital and citizens, who want utilities, including TEPCO, to take responsibility until decommissioning is complete.

Drawing on the persistence and strength of those who have fought the no-nukes battle for long years, as well as the grief and suffering of the people of Fukushima, this battle, to stop restarts and to demand that responsibility for decommissioning is fully realized, is one that we must win.

<Summary of an article written by Mitsunobu Ohishi, Co-Representative of the class action lawsuit demanding an injunction on Tokai II>
Kashiwazaki-Kariwa Units 6, 7 Meet New Regulatory Standards

The Nuclear Regulation Authority (NRA) officially recognized the compliance of Tokyo Electric Power Co.’s (TEPCO’s) Kashiwazaki-Kariwa Units 6 and 7 (both ABWR, 1356 MW) with the new regulatory standards on December 27. However, the governor of Niigata Prefecture, where the nuclear power plant (NPP) is located, is not slackening his opposition to restarting the reactors under the current circumstances, saying, “Verification of the Fukushima accident, the precondition for any discussion of restarting the reactors, will cover a lot of ground, probably taking several years.” (See NIT No. 181 for further details.)

High Court Decision in NPP Makers’ Case

Asserting that it is absurd for the manufacturers of TEPCO’s Fukushima Daiichi NPP to be relieved of legal responsibility for the accident, about 3,800 people in Japan and abroad have filed a suit seeking compensation from three companies: GE’s Japanese subsidiary, Toshiba and Hitachi. However, on December 8, the Tokyo High Court dismissed the plaintiff’s appeal, upholding the initial decision by the Tokyo District Court on July 13, 2016. It said that for the purpose of reparation for damages, it was not unreasonable for the Law on Compensation for Nuclear Damage to focus responsibility on nuclear power plant operators (not manufacturers) for compensation.

Meanwhile, on November 17, six corporations and three people living in Fukushima and Ibaraki Prefectures filed a new suit in the US District Court in Boston against GE, seeking compensation for damages.

Cameco Seeks Compensation from TEPCO

TEPCO has announced that in response to the cancellation of its contract to purchase uranium from Canadian uranium major Cameco on December 18, Cameco is requesting $681.9 million in damages. Initially, the requested amount was only $40 million, but has been raised substantially.

TEPCO had plans to purchase about 4,200 tons of uranium ore from Cameco by 2028, but notified the company in January 2017 that it was cancelling the contract. Saying that this cancellation was invalid, Cameco requested TEPCO either to receive the uranium or pay compensation, and in May, it applied to the International Chamber of Commerce for arbitration. TEPCO is taking the view that the contract can be cancelled with no obligations, and says it will assert the validity of its claim in the upcoming arbitration proceedings.

Diplomatic Documents from Chernobyl Disaster Era Released

The Ministry of Foreign Affairs conducted a regular release of diplomatic documents on December 20, with diplomatic records from the mid-1980s, particularly 1986, made public. Among other things, it was revealed that an expression of “deep concern over the dangers of radioactivity” in a draft of the G7 Summit Tokyo Declaration was eliminated by participating countries upon agreement with the position of promoting nuclear energy.

Mitsubishi Heavy Industries Invests in Framatome

On December 31, Mitsubishi Heavy Industries (MHI) acquired a 19.5% stake in NPP manufacturer Framatome (formerly New NP), which was founded as an affiliate of Electricite de France (EDF) as part of the reorganization of France’s Areva Group. The other investors are EDF, with a 75.5% stake, and Assystem, with a 5% stake. There will be a fifty-fifty ownership ratio between MHI and EDF of ATMEA, which is developing the ATMEA 1 medium-sized nuclear reactor. Framatome will also hold a special share of ATMEA and have fixed rights with regard to supplying equipment for the ATMEA 1.

Decision to Decommission Ohi Units 1 and 2

A formal decision was made to decommission Ohi NPP Units 1 and 2 (both PWR, 1175 MW) at a special meeting of the board of directors of Kansai Electric Power Co. on December 22 (see previous issue’s News Watch for background information). As soon as the preparations are completed, the Ministry of Economy, Trade and Industry will be notified.

Japanese Government to Give Financial Backing to Hitachi NPP Export to UK

It has been reported that Japanese government-affiliated financial institutes are to provide loans and insurance for a plan by the major electrical manufacturer Hitachi Corp. to build two advanced boiling water reactors (ABWRs) in the UK.

The UK nuclear power station business company Horizon Nuclear Power (hereafter, “Horizon”), taken over by Hitachi in 2012, has plans to build nuclear power stations each consisting of two to three ABWRs at Wylfa Newydd on Anglesey island and Oldbury
in South Gloucestershire. Of the two, the Wylfa plan is going ahead first. In 2016 Menter Newydd (a joint venture of Hitachi Nuclear Energy Europe, Bechtel Management Company and JGC Corporation) was designated as the engineering work provider up to the conclusion of the Engineering, Procurement & Construction (EPC) contract. Additionally, the Japan Atomic Power Company (JAPC) and the US major power generating company Exelon Corp. have concluded a cooperation agreement and in 2017 established JEExel Nuclear Company to support the Horizon plan. In April 2017, an application was also made for a site license for the construction of two ABWRs. Further, as these are the first instances of ABWRs to be built in the UK, it was also necessary to undergo a generic design assessment (GDA), and the screening process for this was completed in December 2017.

Hitachi has not publicized the total cost of the Wylfa plan, but it is thought that Hitachi intends to provide 10% of the total cost. There have been several reports in the media concerning the cost since the end of 2017, and it is believed that of the total three trillion yen for the project, the Japanese side will contribute 300 billion yen, the UK side 150 billion yen with each country then providing 1.1 trillion yen in loans. It is reported that the Japanese side intends to provide the loans through the government-affiliated Japan Bank for International Cooperation (JBIC) and private-sector financial institutions, the total sum of which will be insured by Nippon Export and Investment Insurance (NEXI – the official export credit agency of Japan). Reports also say that an MoU concerning these financial arrangements was exchanged between the two countries at the end of 2017.

It became possible for JBIC/NEXI to provide loans and insure nuclear power-related projects due to the formulation of “Guidelines for Disclosure of Information concerning Nuclear Power-related Projects” at the end of 2017.

NPP construction projects entail huge costs, and since there are frequently cost overruns during construction, Hitachi explains that “the project will be steadily pushed forward by a unified team consisting of the strongest members” and “we will construct an environment that prioritizes On Budget/On Schedule.” At the same time, however, Hitachi is seeking investors to reduce to 50% or less its current 100% investment ratio in Horizon. Hitachi’s experience in overseas NPP construction is limited to Lungmen Unit 1 in Taiwan, and thus the risk of cost and schedule overruns cannot be said to be low. It seems hard to reconcile Hitachi’s stance of requesting risk assurance from a government-affiliated financial agency with the direction of risk aversion the company itself is taking. Furthermore, having government-affiliated financial institutions provide this huge loan and insure such a high-risk project, means that, should a default occur, it will be the Japanese taxpayers who will pick up the bill.

### Japanese Government Intend to Take Over URENCO in Partnership with US Company

On January 27, 2018, the Nikkei Shimbun reported that the Japanese government was considering taking over the European uranium enricher URENCO according to some sources familiar with the matter. According to the report, the Japanese government, through the Japan Bank for International Cooperation (JBIC), wished to obtain at least a majority holding in URENCO jointly with the US Centrus Energy, of which 20 to 30% would be held by JBIC. The cost is estimated at several hundred billion yen. The government denies the report.

URENCO ownership is currently split three ways, between the Dutch government, the UK government, and the German power companies E.ON and RWE, but with the decision by Germany to phase out its NPPs, E.ON and RWE wish to sell their holdings and the UK government is also considering selling its shares. At one time, Toshiba and AREVA, the collapsed French nuclear giant, were also considering purchase.

The joint investment partner Centrus Energy was formerly known as the United States Enrichment Corporation (USEC), which filed for bankruptcy under Title 11 of the U.S. Code due to stagnation in demand for enriched uranium following the Fukushima Daiichi Nuclear Power Station accident. Since USEC/Centrus Energy closed down its ageing and inefficient uranium enriching plant in 2013, however, the company has become an intermediary in the import of enriched uranium from Russia and Europe.

According to the report, the reason for the Japanese government’s takeover of URENCO is energy security jitters in the case that Russia or China purchased URENCO. Currently, however, uranium enriching capacity is in surplus vis-à-vis demand and this surplus will not disappear even in 2035, according to Energy Resource International.

Further, the proportion of nuclear power in Japan’s primary energy has fallen since its peak of 12.6% in 2001, to 11.1% in 2010, and has become a mere 0.7% currently (2016) due to stagnation in demand for enriched uranium following the Fukushima Daiichi Nuclear Power Station accident. At the same time, from 2010 to 2016, Japan’s overall national primary energy declined by 1.98×10[^20] Joules (J). Also renewable energy (including large hydro) supply increased by 4.4×10[^20]. Considering that the power supply by NPPs in 2010 was 2.46×10[^20] J, it would seem that in six years Japan has managed to increase its use of renewables and reduce its energy needs by almost the same amount as that once supplied by NPPs.
Group Introduction:

Enemira-Tottori (Future of Energy)
~Passing on the feelings of our ancestors to the future~

We established our association with the feeling that we wanted to pass on a nuclear-free homeland to our future children after we found out about the serious situation that occurred due to the nuclear power plant accident in March 2011. Since that time, we have carried out study meetings on themes such as the diffusion of renewable energy, support for the people affected in the Great East Japan Earthquake, evacuation plans at the time of nuclear power plant accidents, and the issue of radioactive waste from nuclear power plants. We have also conducted survey activities such as hearings with related organizations and individuals, and lobbied local governments and councils.

The strong feelings held toward their homeland by the members of the Women’s Association that played a central role in the anti-nuke movement of the 1980s in Aoya-cho, Nagaobana District (Tottori City) have been the driving power behind these activities. The more we came to know about the ghastly situation after the Fukushima nuclear power station accident, the more we came to embrace a renewed sense of respect and gratitude for the wisdom and courage of the people who came before us, who have protected our homeland through to the present time. The land in Aoya-cho, where a nuclear power station was scheduled for construction, is now held in common by the residents. The people who are hoping for a nuclear phaseout are cultivating fields of satsuma sweet potatoes there. Each year, our association carries out activities to narrate our history while selling sweets made from the potatoes cultivated in the fields.

Meanwhile, issues concerning “radioactive waste” from nuclear power plants has arisen in Tottori Prefecture. One of these is the “Nationwide Map of Scientific Features for Geological Disposal” published by the Nuclear Waste Management Organization of Japan (NUMO) in the summer of 2017 for seeking disposal sites for high-level radioactive waste. This map shows nine municipalities within the prefecture, which are said to have appropriate geological features for a radioactive waste dump. The second is that research for the final disposal of uranium waste has begun at the former uranium mining site, the Ningyotoge Environmental Engineering Center, that straddles the border between Misasa Town in Tottori Prefecture and Kagamino Town in Okayama Prefecture. The third is the issue of what will happen to the materials comprising the so-called low-level radioactive waste from the decommissioning of Chugoku Electric Power Company’s Shimane Nuclear Power Station Unit 1, in neighboring Shimane Prefecture.

Regarding the first issue, we are holding hearings with the municipalities involved and carrying out activities to demand that they do not agree to host a final deposit site for dangerous radioactive nuclear waste.

For the second issue, organizations from both prefectures that are opposed to nuclear waste are monitoring the area to find out what is happening in the watershed for Tottori and Okayama Prefectures, and we have also conveyed our fears to the Center by releasing a statement.

Regarding the third issue, we feel that it is necessary to remain vigilant to ensure that nuclear waste which is said to be below a certain reference level is not surreptitiously mixed in with, for example, industrial waste as the decommissioning of the nuclear power plant advances.

Since the nuclear power plant accident, the issue of nuclear waste has become more complex, and it has become totally impossible for local people alone to resolve the issue. We believe the pressing task now is to recall the feelings of the people and build a system to empower citizen monitoring while coordinating with people in all parts of Japan.

<Sachiko Yamanaka, Enemira-Tottori Co-Director>