

Japan nuclear plants: high level of tritium in Fukushima groundwater & sea, Niigata governor blasts TEPCO, French Mox

Tuesday 9 July 2013, by [Jiji Press](#), [Kyodo News](#), [Mainichi Shimbun](#) (Date first published: 7 July 2013).

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Tritium soaring in water at No. 1 plant

Tokyo Electric Power Co. said Sunday that 600,000 becquerels per liter of tritium has been detected in groundwater at the crippled Fukushima No. 1 nuclear plant.

It's the first time such a high level of tritium, an isotope of hydrogen, has been measured in the plant's groundwater, Tepco said.

The water, sampled Friday, came from an observation well about 6 meters west of the plant's port. The well is the closest to the sea of the five wells used for radiation monitoring.

On July 1, the tritium level in the same well was 510,000 becquerels per liter, Tepco said.

The utility also said it had measured, on Wednesday, a seawater tritium level of 2,300 becquerels per liter - the highest so far - near the water intakes of reactors 1 to 4.

Tritium concentrations in groundwater have become denser on the north side of the intakes, but Tepco also said it has yet to determine whether the tainted water has been leaking into the sea.

A Nuclear Regulation Authority official recently said contaminated groundwater from the plant, which is being fed cooling water from outside, may be seeping into the ocean and that the matter must be addressed carefully because data is limited.

Jiji Press, July 7, 2013

http://www.japantimes.co.jp/news/2013/07/07/national/tritium-soaring-in-water-at-no-1-plant/#.Udtr_axjbRY

Highly radioactive water found in another well at Fukushima plant

TOKYO (Kyodo) — Tokyo Electric Power Co. said Friday it has detected highly radioactive water in a well newly built to check the spread of underground contamination at the crippled Fukushima Daiichi nuclear power plant.

The well is only several meters from a pit from which highly radioactive water was found seeping into the adjacent sea in April 2011, shortly after the nuclear crisis commenced at the plant.

According to TEPCO, a water sample collected Monday from the well, around 25 meters from the sea, contained about 900,000 becquerels per liter of radioactive substances such as strontium that emit beta rays.

TEPCO spokesman Masayuki Ono told a press conference that the company will check whether the water leak more than two years ago has affected the contamination level of water inside the well.

Kyodo News, July 5, 2013

<http://mainichi.jp/english/english/newsselect/news/20130706p2g00m0dm004000c.html>

Water in all leaky trenches at No. 1 routed to other storage, Tepco says

FUKUSHIMA — Tokyo Electric Power Co. has finished pumping out radioactive water from all seven of its huge covered trenches at the crippled Fukushima No. 1 nuclear plant, transferring the contents of most to above-ground steel tanks, Tepco officials said.

The last covered trench to be emptied had contained around 3,000 tons of water that was relatively less contaminated than the others because it consisted mainly of seawater that entered the buildings housing reactors 5 and 6 when the plant was engulfed by tsunami moments after the March 11, 2011, Great East Japan Earthquake hit.

Highly radioactive water stored in the six other covered reservoirs had been transferred to more reliable tanks above ground before Tepco started handling the less-contaminated water starting on June 11. It was found that the highly radioactive water that had been pumped into the trenches, which are triple-lined, was seeping into the ground. The covered sunken trenches have raised coamings.

The less-contaminated water was pumped into the basement of the reactor 6 turbine building and will eventually be transferred to above-ground containers, Tepco said late Monday.

The utility first detected the radioactive water seepage from one of the trenches on April 5. Two other reservoirs were also found to have problems, leading Tepco to remove the water from all seven.

Kyodo News, Jiji Press, July 3, 2013

<http://www.japantimes.co.jp/news/2013/07/03/national/water-in-all-leaky-trenches-at-no-1-routed-to-other-storage-tepco-says/#.UdtV3KxjbRY>

Level of radioactive tritium rising in harbor at Fukushima plant

Tokyo Electric Power Co. has seen a rise in the level of radioactive tritium in seawater within the harbor at the crippled Fukushima No. 1 nuclear power plant.

A sample collected Friday contained around 1,100 becquerels of tritium per liter, the highest level detected in seawater since the nuclear crisis at the plant started in March 2011, the utility said Monday.

An official of the Nuclear Regulation Authority said groundwater containing radioactive substances may be seeping into the harbor from the plant site and there is a need to carry out a careful investigation because the data collected so far are limited.

According to Tepco, the sample with the highest tritium concentration was collected near a water intake on the east side of the reactor 1 turbine building. The level was more than double that of a sample taken on June 10 in the same area.

The latest announcement was made after Tepco detected high levels of radioactive tritium and strontium in groundwater from an observation well at the plant.

The government-set safety limit for tritium is 60,000 becquerels per liter of seawater.

Kyodo News, June 25, 2013

<http://www.japantimes.co.jp/news/2013/06/25/national/level-of-radioactive-tritium-rising-in-harbor-at-fukushima-plant/#.UdC14thjbRY>

Toxic groundwater found in Fukushima No. 1 well just 6 meters from Pacific

Tokyo Electric Power Co. said Saturday it has detected high levels of radioactive substances, including strontium, emitting beta rays in groundwater taken from a well at the port of the Fukushima No. 1 nuclear plant.

Tepco said 3,000 becquerels of radioactive substances per liter were recorded in groundwater from the well, located just 6 meters from the Pacific. That concentration is 100 times higher than the maximum legal limit.

As levels of radioactive tritium have been rising in seawater around the port, radioactive substances are suspected to have leaked into the ocean.

ÅIt is true that radioactive contamination has been found from groundwater near the sea, but we do not know whether tainted water has made its way into the Pacific,Åh a Tepco official said.

The contamination was found in a water sample collected Friday. The well is the nearest to the shore among the four wells used for observation purposes at the plant, according to Tepco, and the radiation levels from its groundwater also were the highest detected.

Also Friday, Tepco recorded 1,400 becquerels of beta ray-emitting radioactive substances such as strontium in groundwater from another of the wells, situated 25 meters from the sea.

The latest revelations came after readings of tritium and strontium-90 were found to be eight to 30 times higher than the permissible limit in ground water from that well in May. After that discovery, Tepco expanded the area it surveys and drilled an additional observation well nearer to the Pacific.

Over the last few months, levels of radioactive tritium in seawater near the water intakes of reactors 1 to 4 at the crippled complex soared to 1,500 becquerels per liter at one point. A member of the Nuclear Regulation Authority earlier said it is "highly likely" that contaminated groundwater has leaked into the Pacific.

Following the triple meltdowns at the Fukushima No. 1 plant, huge amounts of highly radioactive water gushed into the Pacific through a duct containing cables for reactor 2, one of the three wrecked units. Tepco sealed the duct in April 2011, but some of the remaining tainted water is believed to have leaked and become mixed with groundwater, officials at the utility said.

Jiji Press, June 30, 2013

<http://www.japantimes.co.jp/news/2013/06/30/national/toxic-groundwater-found-in-fukushima-no-1-well-just-6-meters-from-pacific/#.UdDIyNhjbRY>

Exposure data wrong for 16,000 in Fukushima

FUKUSHIMA — Fukushima Prefecture and the National Institute of Radiological Sciences have said they erroneously estimated the radiation exposure of 16,118 people in a survey covering the first four months after the outbreak of the March 2011 disaster at the Fukushima No. 1 nuclear plant.

Among the roughly 420,000 people authorities have so far finished compiling data on, recalculations show 12,469 received higher doses and 3,649 lower doses than previously estimated.

The margins for revisions range from plus 0.4 millisievert to minus 0.2 millisievert. As a result of the revisions, it was learned that some people were exposed to more than 1 millisievert — the annual limit set by the government for ordinary citizens.

People polled were asked to answer in detail where they were between March 12 and July 11, 2011.

Based on their whereabouts, the institute estimated their cumulative amount of external exposure by adding up daily radiation levels measured at their locations over the four months.

Used as reference were actual radiation readings at a number of monitoring posts in the prefecture as well as projections of the spread of radioactive substances by the SPEEDI computer simulation system.

But in some cases, the dates in the survey failed to match those in the reference data.

Kyodo, June 26, 2013

<http://www.japantimes.co.jp/news/2013/06/26/national/radiation-exposure-data-inaccurate-for-16000-fukushima-residents/#.UdC479hjbRY>

Melted fuel removal at Fukushima plant planned from 2020 at earliest

TOKYO (Kyodo) — The government and Tokyo Electric Power Co. decided Thursday on a revised road map for decommissioning the crippled Fukushima Daiichi nuclear reactors, eyeing the start of the removal of melted fuel in 2020 at the earliest.

The government believes it is possible to bring forward defueling by more than a year from the initial plan through an improvement in work efficiency. However, the exact date cannot be guaranteed with TEPCO not knowing at this point exactly where the fuel is located and in what state it is in.

It is the first major revision of the road map that outlines the 40-year-long process of scrapping the Nos. 1 to 4 units at the Fukushima Daiichi plant. The original schedule was released in December 2011, after the complex, ravaged by a huge earthquake and tsunami in March the same year, was brought under control.

The plant is currently in the first phase of the decommissioning process, during which TEPCO is expected to start extracting the fuel inside the spent fuel pool located atop the No. 4 reactor building in November.

The No. 4 unit only has fuel in the spent fuel pool because the reactor was offline for maintenance work when the earthquake and tsunami hit the plant.

The target of the second phase is to begin removing melted fuel from one of the crippled reactors. The revised road map indicates that the work will begin at the Nos. 1 and 2 reactors within the first half of fiscal 2020 at the earliest and at the No. 3 reactor within the latter half of fiscal 2021 at the earliest.

But the schedule for removal could be delayed depending on what kind of equipment is needed at the three reactor buildings, which all have differing levels of damage and contamination.

The buildings housing the Nos. 1, 3 and 4 reactors were damaged by hydrogen explosions, while the radiation level inside the No. 2 reactor building is very high.

At the latest, the road map shows that removal could start from fiscal 2022 for the No. 1 reactor, fiscal 2024 for the No. 2 reactor, and fiscal 2023 for the No. 3 reactor.

The original road map had only said that defueling will start in December 2021 without specifying which reactor will be worked on first.

The fuel inside the Nos. 1 to 3 units is believed to have melted through the reactor pressure vessels and has been accumulating in the outer primary containers, making the task of defueling more challenging than in the case of the 1979 Three Mile Island accident in the United States.

Kyodo, June 27, 2013

<http://mainichi.jp/english/english/newsselect/news/20130628p2g00m0dm045000c.html>

Harsh responses to Tokyo Electric Power Co. attempt to prepare resuming their operations

Niigata governor blasts TEPCO for applying for screening to reactivate nuclear plant

NIIGATA — Gov. Hirohiko Izumida has bitterly criticized Tokyo Electric Power Co. (TEPCO) for suggesting that it will apply for a safety inspection of its Kashiwazaki-Kariwa Nuclear Power Plant in the prefecture in a bid to reactivate the idled power station.

“It’s an act that could destroy the company’s mutual trust with local governments,” Izumida said. “TEPCO’s plan to file an application even without fulfilling its responsibilities will never gain the understanding of the public. The utility has failed to provide any explanation to the local community.”

The governor has repeatedly said he has no intention of even discussing the possibility of resuming operations at the Kashiwazaki-Kariwa plant unless the power company gets to the bottom of the accident at the tsunami-hit Fukushima No. 1 Nuclear Power Plant.

The mayors of Kashiwazaki and Kariwa have failed to make clear-cut statements on the matter.

“We’ll make judgment after listening to an explanation from TEPCO,” said Kashizawaki Mayor Hiroshi Aida, while saying, “I’m surprised at it (TEPCO’s announcement) because it came all of a sudden.”

“The village government is in no position to comment on an application because it is something that TEPCO’s management decided. As mayor, I’d like to actively express opinions about the plant’s safety while carefully listening to an explanation,” Kariwa Mayor Hiroo Shinada said.

A leader of a citizens group that has been demanding a local referendum on the pros and cons of reactivating the Kashiwazaki-Kariwa power station urged the Niigata governor to place top priority on safety in making a decision on the matter.

“TEPCO is desperate to reactivate the plant in order to meet its managerial requirements. We’d like Gov. Izumida to make judgment while giving priority to the safety of prefectural residents,” said Keiko Hashimoto, co-leader of the group.

Kazumasa Takeuchi, chairman of the Kashiwazaki Junior Chamber’s panel on environmental and energy issues who is promoting the use of nuclear energy, urged that the plant be reactivated at an early date. “We hope that operations at the plant will be resumed as soon as possible while ensuring safety.”

However, there is no prospect that TEPCO will gain consent from the local governments and communities hosting the nuclear plant, which is a prerequisite for reactivation, and the utility has not clarified when it will file its application.

Mainichi Shimbun, July 3, 2013

<http://mainichi.jp/english/english/newsselect/news/20130703p2a00m0na012000c.html>

TEPCO gets harsh response from Niigata gov. over restarting reactors

NIIGATA, Japan (Kyodo) — Tokyo Electric Power Co. faced a harsh response on Friday from Niigata Gov. Hirohiko Izumida in its attempt to swiftly apply for a state safety assessment of two reactors there as a step toward resuming their operations.

After meeting with Izumida and the mayors of two municipalities that the Kashiwazaki-Kariwa plant straddles, TEPCO President Naomi Hirose admitted it is “difficult” to join other utilities’ moves to apply for safety assessment of reactors next Monday, when a set of new regulations for atomic power plants take effect.

Izumida said TEPCO did not offer any explanation to local people before announcing the company’s plan to file for the assessment of the plant’s Nos. 6 and 7 reactors.

“Why did you rush (to make a decision to file for application)?” the governor said in the meeting, while also refusing to accept a paper in which TEPCO sought approval on a plan to install a safety system which is essential to restart the two units under the new safety standards.

The safety system is vents with filters that can reduce the amount of radioactive substances emitted when pressure needs to be released from reactor containers during emergencies.

In separate meetings, Kashiwazaki Mayor Hiroshi Aida said the lack of explanation to local people beforehand “could undermine the relationship of trust.”

But as for the utility’s plan to apply for the safety assessment, Aida said, “Procedures have been taken. I cannot tell whether it is good or bad. It is an issue up to TEPCO.”

Kariwa Mayor Hiroo Shinada said, meanwhile, he will deal with TEPCO’s plan in a “level-headed manner and appropriately make a judgment.”

TEPCO, which is struggling in the aftermath of the nuclear disaster at its Fukushima Daiichi complex, wants to reactivate the Kashiwazaki-Kariwa plant on the Sea of Japan coast to reduce its spending on costly fuels for thermal power generation to make up for the halt of its other nuclear power plants.

While four other utilities plan to apply for safety assessment of some of their reactors next Monday, TEPCO’s move is seen to be more controversial because it is the operator of the Fukushima Daiichi complex, crippled by a huge earthquake and tsunami in 2011.

To restart reactors, nuclear power plant operators will first have to seek confirmation from the Nuclear Regulation Authority that their facilities satisfy the new regulations.

After a reactor is confirmed to be safe enough, utilities are expected to seek local consent before restarting the reactor, although such approval is not a legal requirement.

Kyodo News, July 4, 2013

Niigata gov. raises doubts about gov't safety requirements for nuclear reactors

NIIGATA — Niigata Gov. Hirohiko Izumida has raised doubts about the government's new safety requirements for nuclear reactors — a stance that could make reactivating the prefecture's idled Kashiwazaki-Kariwa Nuclear Power Plant at an early date difficult.

"Even if the Kashiwazaki-Kariwa nuclear plant run by Tokyo Electric Power Co. (TEPCO) meets new safety requirements set by the Nuclear Regulation Authority (NRA), it won't mean its safety is guaranteed," Izumida said in an exclusive interview with the Mainichi Shimbun.

"Setting safety standards without getting to the bottom of the Fukushima nuclear disaster provides no guarantee of safety. Unfortunately, the new safety requirements won't win public confidence," he said.

Izumida also questioned the composition of the NRA, stating, "Nobody familiar with local government administration is on the panel."

The Niigata governor also criticized the NRA for failing to listen to opinions from the prefectural government about safety measures including a plan to evacuate local residents in the event of an accident at the Kashiwazaki-Kariwa plant.

"Such an absurd stance is totally unheard of," he said.

Izumida also pointed out that even if a serious accident occurs at a nuclear plant, current legislation does not allow anybody to be dispatched to a site where levels of radiation are high to prevent the situation from worsening.

"Abandoning the site of a serious accident could result in a meltdown. Unless the government determines how to respond to such a situation, we can't say it has gotten to the bottom of the Fukushima accident," he said.

The national government intends to resume operations at nuclear plants that meet the NRA's new requirements on condition that consent is gained from local governments hosting such power stations.

Izumida hinted that he will not agree to reactivation of the Kashiwazaki-Kariwa plant, saying, "Before doing that, the government must get to the bottom of the Fukushima nuclear crisis." He added, "The NRA standards alone won't ensure the safety of prefectural residents."

TEPCO needs to resume operations at the Kashiwazaki-Kariwa plant in order to achieve its goal of moving into the black during the current business year. If reactivation of the plant is delayed, it may force the utility to once again raise its electricity rates.

Mainichi Shimbun, June 29, 2013

<http://mainichi.jp/english/english/newsselect/news/20130629p2a00m0na016000c.html>

Restarting reactors?

Japan's sole operating reactors allowed to be online until Sept.

TOKYO (Kyodo) — The Nuclear Regulation Authority decided Wednesday to allow Japan's only two reactors currently online to continue operating after new safety requirements for nuclear plants are introduced next Monday, as it sees no serious problems with them at the moment.

While all the 50 commercial reactors in Japan will be obliged to meet the new nuclear standards from next week if they want to operate, the Nos. 3 and 4 reactors at Kansai Electric Power Co.'s Oi plant will operate until sometime in September, when they will be taken offline for mandatory routine checks.

In a report that evaluated the current status of the reactors in Fukui Prefecture in light of the new regulations, the NRA said that as of the end of June "We think facilities and the way things are managed will not create serious safety problems immediately."

NRA Chairman Shunichi Tanaka told a meeting with other NRA commissioners that the safety level of the reactors has become higher than before because the plant operator has taken emergency measures based on requests by regulators.

But he added, "I want the operator to make further efforts to improve safety so that the reactors can (fully) satisfy the new regulation standards."

Other NRA members also supported the conclusion of the report, but one of the commissioners, Kayoko Nakamura, criticized it, saying she felt the utility's behavior and awareness of safety issues have "not received a pass mark."

The NRA will determine whether the two reactors can resume operation after the routine checkups are over by assessing more strictly whether they meet the new requirements, including the absence of active faults under the plant.

A team appointed by the NRA has been examining whether such faults exist, but the process has been prolonged as experts are divided on the issue.

Kansai Electric said Monday that the outcome of its latest trench survey did not change its view that a fault called F-6, which is believed to run under an emergency water intake channel for the Nos. 3 and 4 reactors, is not active.

The utility is expected to report the findings to the NRA around mid-July. If the F-6 fault has the potential to move in the future, it will be difficult to resume the two reactors' operations as construction of important facilities on active faults is not allowed in quake-prone Japan.

Some people living near the plant welcomed the latest decision reached by the NRA, with a 40-year-old man of Oi town's association of commerce and industry saying that keeping the reactors running is "good for the local economy."

A 69-year-old opponent living in the same town, however, said that safety appears to be taking a

backseat in the NRA's assessment, asking "Why does the NRA allow the reactors to remain online when a conclusion has not been reached on the issue of active faults?"

After the 2011 disaster at Tokyo Electric Power Co.'s Fukushima Daiichi complex heightened concerns over the use of nuclear power, reactors in Japan were unable to restart following routine maintenance, leaving the country with no nuclear power generation since May last year.

The No. 3 and 4 reactors at the Oi plant on the Sea of Japan coast, however, were reactivated in July the same year because they cleared provisional safety standards created by the government at that time. Since then, they have remained the sole operating reactors in the country.

If the two go offline in September this year, Japan is likely to enter another period with no nuclear power generation, because no other reactors are likely to restart by then.

Operators of other reactors are expected to start applying for their restarts once the new regulations come into force next Monday, but an assessment to check whether they satisfy the new requirements may take around six months.

The new regulations, which are aimed at preventing recurrences of disasters like the one at the Fukushima plant, require utilities to take specific measures to protect their nuclear plants from tsunami and to prevent and minimize the consequences of severe accidents.

Kyodo News, July 03, 2013

<http://mainichi.jp/english/english/newsselect/news/20130703p2g00m0dm050000c.html>

4 utilities to file for procedures to restart some reactors

TOKYO (Kyodo) — Four utilities said Friday they will apply to the Nuclear Regulation Authority to have 10 of their reactors confirmed safe enough to restart operations, when new nuclear regulations take effect on Monday.

Hokkaido Electric Power Co. said it will make the application for the Nos. 1 to 3 reactors at the Tomari nuclear power plant, while Kansai Electric Power Co. will apply for a safety examination of the Nos. 3 and 4 reactors at its Oi complex and the Nos. 3 and 4 reactors of the Takahama complex, both in Fukui Prefecture.

Shikoku Electric Power Co. has also applied for an assessment of the No. 3 reactor at the Ikata complex in Ehime Prefecture.

Kyushu Electric Power Co. made the first step toward the application for the Nos. 1 and 2 reactors at the Sendai plant in Kagoshima Prefecture, and said it may also file with the NRA to restart the Nos. 3 and 4 idled reactors at the Genkai plant in Saga Prefecture on July 12, utility officials said.

The NRA is set to check the safety of reactors in accordance with new regulations after accepting applications from Monday.

The authority asked utilities to inform them by 3 p.m. Friday if they were going to apply on Monday so it could avoid a rush of applications from those eager to restart their reactors.

Following the NRA's safety checks, the government will make a final decision on whether the reactors can restart.

Kyodo News, July 5, 2013

<http://mainichi.jp/english/english/newsselect/news/20130705p2g00m0dm072000c.html>

Japanese power firms have no plans to scrap more nuclear reactors: poll

Although tighter nuclear safety standards will be implemented Monday, none of the nation's 10 atomic power plant operators is planning to retire any reactors other than those already destined for the scrap heap, a survey showed Saturday.

Due to the huge costs of meeting the new regulations drawn up in light of the Fukushima meltdowns in 2011, the operators had been expected to designate more aging reactors for decommissioning. But some of the operators are even planning to apply for permission to continue running reactors beyond the maximum 40-year limit, the Jiji Press survey found.

Japan's 50 commercial reactors are operated by nine regional utilities and Japan Atomic Power Co. Of this total, seven units are in the process of being dismantled, including reactors 1 to 4 at the crippled Fukushima No. 1 power station.

The operators' reluctance to retire reactors is apparently due to the sky-high decommissioning costs, which are estimated at around ¥55 billion for a 1.1 million kw unit.

The operators would thus have to book huge impairment losses if they decided to scrap more reactors. The oldest reactor in the nation, unit 1 at Japan Atomic Power's Tsuruga plant in Fukui Prefecture, would cost a projected ¥23 billion to dismantle.

"Generally, older reactors have higher risks," said Hideyuki Ban, co-director of the Citizens' Nuclear Information Center.

"If power firms put off decommissioning reactors to secure short-term profits and avoid (massive) losses, that could see the recurrence of a (major) nuclear accident," he warned.

Jiji Press, July 6, 2013

<http://www.japantimes.co.jp/news/2013/07/06/national/japanese-power-firms-have-no-plans-to-scrap-more-nuclear-reactors-poll/#.UdtplKxjbRY>

Utilities unreceptive to shareholders' proposals to phase out nuclear power

Proposals to phase out nuclear power were rejected at general shareholders' meetings held at nine of the country's 10 utilities on June 26.

With Japan's new nuclear standards set to take effect July 8, and the government's enthusiasm for resuming operations of idled nuclear reactors around the country, Hokkaido Electric Power Co.,

Kansai Electric Power Co., Shikoku Electric Power Co. and Kyushu Electric Power Co. have also voiced a willingness to restart their reactors at an early date.

As Tokyo Electric Power Co. (TEPCO) shareholders arrived at a gymnasium in Tokyo's Shibuya Ward where the shareholders' meeting for the operator of the stricken Fukushima No. 1 nuclear plant was to take place, they were welcomed by anti-nuclear activists holding placards.

"Abandonment of nuclear power is the will of the people. Since there have been changes in the (board) membership, I have some hope," said 60-year-old Yui Kimura, who heads the civic group Nuclear Phase-Out TEPCO Shareholder's Movement.

Individual stockholder Kenji Furuhashi, 34, said he took the day off of work to participate in the meeting. "I want to feel the passion of people who are against nuclear power, and listen to the voices of people from the disaster areas," he said. "I want the company to move in the direction of eliminating nuclear power."

Inside, TEPCO President Naomi Hirose opened the meeting at 10 a.m. by reiterating his intention to devote energy to bringing the disaster under control and rebuilding Fukushima Prefecture.

"We will continue to deal responsibly in compensating victims of the Fukushima No. 1 Nuclear Power Plant accident and the long-term decommissioning process of the reactors," he said.

Meanwhile, outside the site of Kansai Electric's shareholders' meeting, anti-nuclear civic groups held banners calling for "non-nuclear management," and passed out flyers to shareholders walking in demanding that Oi Nuclear Power Plant be stopped and that operations at Takahama Nuclear Power Plant remain halted.

Inside, Kansai Electric President Makoto Yagi reemphasized his plan to move toward reactivation of idle reactors, saying, "We're in a serious crunch in terms of power supply and revenue, seeing as we don't know when reactors, with the exception of Oi Nuclear Power Plant's No. 3 and No. 4, can be reactivated."

There were a record 15 proposals from shareholders at the TEPCO meeting, including proposals to abandon the Fukushima No. 2 and Kashiwazaki-Kariwa nuclear power plants. The Tokyo Metropolitan Government, a major TEPCO shareholder, proposed improving management transparency through measures such as the release of balance statements for each power plant.

With the exception of Hokuriku Electric Power Co.'s shareholders' meeting, some shareholders submitted proposals for the utilities to pull out of nuclear power and abandon reactivation. The Osaka Municipal Government, a shareholder at Kansai Electric, proposed a "swift abolition of nuclear plants." It is highly likely such proposals will be rejected, however, as utilities have already expressed objections.

Thermal power generation to compensate for the long-term halt of the country's nuclear reactors has raised fuel costs, resulting in consolidated losses for eight utilities — the exception being Hokuriku Electric — for the financial year ending in March 2013. The utilities, save for TEPCO and Hokkaido Electric, proposed dipping into cash reserves set aside for harsh financial situations, and of these, Tohoku Electric Power Co., Shikoku Electric, and Kyushu Electric proposed using their entire reserves.

The utilities all apologized to their shareholders for their declining performance, and sought their understanding for rising power bills and management's improvement efforts.

Protesters gathered at other meeting sites as well, including at Tohoku Electric and Hokkaido Electric, where anti-nuclear shareholders called on fellow shareholders to push for nuclear abandonment.

Shareholders also argued about the Hamaoka nuclear plant at the Chubu Electric Power Co. shareholders' meeting in Nagoya's Higashi Ward.

"If the national government were willing to offer assistance for the public to become energy self-sufficient, we could go without nuclear power," a 62-year-old woman from Nagakute, Aichi Prefecture, said.

A 76-year-old man from Nishio, Aichi Prefecture, meanwhile said, "The Hamaoka nuclear plant is still serviceable for years. It would be a waste not to use it."

Mainichi Shimbun, June 26, 2013

<http://mainichi.jp/english/english/newsselect/news/20130626p2a00m0na008000c.html>

MOX

MOX fuel processed in France arrives at Takahama nuclear plant

TSURUGA, Japan (Kyodo) — A freighter carrying nuclear fuel processed in France arrived amid protests by antinuclear activists at Kansai Electric Power Co.'s Takahama nuclear power plant in central Japan on Thursday, the first such shipment to Japan since the 2011 Fukushima nuclear disaster.

The shipment of uranium-plutonium mixed-oxide, or MOX, for the No. 3 reactor had been suspended due to the disaster at Tokyo Electric Power Co.'s Fukushima Daiichi power plant following the March 11, 2011 earthquake and tsunami.

The Osaka-based utility hopes to use the fuel from around the fall of 2014, and is poised to apply for government approval to restart reactors Nos. 3 and 4 at the plant in Fukui Prefecture on the Sea of Japan once new nuclear plant safety requirements come into force in July.

More than 100 members of various antinuclear citizens groups rallied at a square near the plant and in front of the plant's gate, opposing the use of the fuel at the plant and urging the freighter to return to France.

At the rally, Toshihiro Inoue, 55, read a statement of protest against the installation of the fuel and handed it to a Kansai Electric official, while Hitomi Nishimoto, 46, told reporters that Kansai Electric should never use the delivered fuel at the plant.

The work to unload the MOX fuel rods from the freighter and store them at the plant is expected to finish by Thursday evening after local government officials have checked the levels of radiation.

Kansai Electric asked French nuclear firm Areva SA in 2008 to process 20 MOX fuel rods from spent nuclear fuel. The reprocessing work was completed in 2010 and the rods were initially meant to be shipped to Japan in 2011.

The freighter left France on April 17 for Japan by way of the Cape of Good Hope in South Africa. Kansai Electric has yet to disclose how many fuel rods were delivered.

Under the government's nuclear cycle policy, Kansai Electric used MOX fuel at the Takahama No. 3 reactor in so-called pluthermal, or plutonium-thermal, power generation from December 2010 through February 2012, when it was shut down for regular checks.

Kansai Electric, which supplies electric power to the Kansai region in western Japan and parts of central Japan, took delivery of four MOX fuel rods for use at the No. 4 reactor before the 2011 disaster.

Of the 50 commercial reactors in Japan, only two at Kansai Electric's Oi plant, also in Fukui, are now online.

The utility has officially said it will use MOX fuel sometime between 2013 and 2015, but included a plan to use it at the two Takahama reactors from around the fall of 2014 in its earlier application for government permission to raise household electricity rates.

Kyodo, June 27, 2013

<http://mainichi.jp/english/english/newsselect/news/20130627p2g00m0dm044000c.html>

Japan unlikely to use MOX fuel in nuclear reactors

The government is highly unlikely to go ahead with the use of uranium-plutonium mixed oxide, or MOX fuel, in nuclear reactors as it had planned, even though a freighter carrying nuclear fuel reprocessed in France has arrived back to Japan.

Japan possessed 44.3 tons of plutonium, including that stored in Britain and France, as of the end of 2011, according to the Cabinet Office's Atomic Energy Commission (AEC). If used for power generation, each reactor would spend only 0.4 tons of MOX fuel a year.

Therefore, Japan will likely fail to keep an international pledge it made not to possess plutonium that cannot be used because such fuel could be converted to nuclear arms.

Prior to the outbreak of the Fukushima nuclear crisis in 2011, the government had intended to introduce MOX fuel — produced by extracting plutonium from spent nuclear fuel — at 16 to 18 reactors by fiscal 2015. However, it is particularly difficult for the use of such fuel in 26 boiling-water reactors, the same type as those at the tsunami-hit Fukushima No. 1 plant, to meet new safety requirements.

Four utilities are expected to apply to the authorities for permission to reactivate 12 of their idled nuclear reactors beginning in July. All of them are pressurized water reactors.

MOX fuel could technically be used in only four of these reactors, according to government officials. The four reactors are the Nos. 3 and 4 reactors at Kansai Electric Power Co.'s Takahama power station, the No. 3 reactor at Shikoku Electric Power's Ikata plant and the No. 3 reactor at Kyushu Electric Power's Genkai plant.

Before the outbreak of the Fukushima nuclear crisis, utilities had gained consent from local

communities for the use of MOX fuel in 10 reactors, including J-Power's Oma power plant that is under construction. Such fuel had actually been used at four of the reactors including the No. 3 reactor at the Fukushima No. 1 plant until the nuclear disaster.

But the Fukushima reactor was stopped following the disaster and the three others have been suspended for regular inspections. The three still cannot be reactivated in the aftermath of the nuclear crisis.

The use of MOX fuel is an important part of the government's nuclear fuel cycle project in which spent nuclear fuel is reprocessed and reused. While the use of such fuel allows efficient and effective use of plutonium, there are technical problems, such as a decline in the efficiency of control rods used in the operation of the reactors, according to experts.

The Monju prototype fast-breeder reactor, which produces electric power by causing the nuclear fission of plutonium and generates more plutonium than it consumes, had previously been the core of the nuclear fuel cycle project. However, there is no prospect that the reactor, whose operation had been suspended following a sodium leak in 1995, will be resumed in the foreseeable future because it has come to light that since November last year workers failed to examine more than 10,000 parts of the reactor.

Mainichi Shimbun, June 27, 2013

<http://mainichi.jp/english/english/newsselect/news/20130627p2a00m0na014000c.html>
