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Citizens' Nuclear Information Center

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TEPCO will do anything to maintain the 'unforeseeable' theory - The 'simulation analysis' deception technique -



photo released by TEPCO

Highly likely LOCA in Reactor Unit 1

If they possibly can, what the Japanese state and Tokyo Electric Power Company (TEPCO) would like to see buried once and for all is the notion that the critical equipment at TEPCO Fukushima Daiichi Nuclear Power Station Reactor Units 1, 2, and 3 (1F 1-3) sustained serious damage from seismic motion unrelated to the 'unforeseeable' giant tsunami. The reason is that if it becomes known that even in one of the three reactors critical piping was damaged in the seismic motion and that a 'loss of coolant accident' (LOCA), where coolant gushes out from a damaged pipe into the containment vessel, occurred, then the grave issue of 'earthquake vulnerability of the central structures of nuclear power stations' would arise, shaking the very foundations of the safety of nuclear power in 'earthquake country Japan.' If that happens, the tsunami measures and external power supply measures that are the current government's basic policy conditions for the resumption or continuation of operations of existing nuclear

power plants NPPs will be forced to undergo a fundamental review and it may become impossible ever to resume the operation of Chubu Electric Power Company's (CEPCO) Hamaoka NPP.

However, the facts cannot be suppressed forever. Judging from the various kinds of data released by TEPCO thus far, there is an extremely high probability that an LOCA occurred in the reactor piping in at least Unit 1 at the time the

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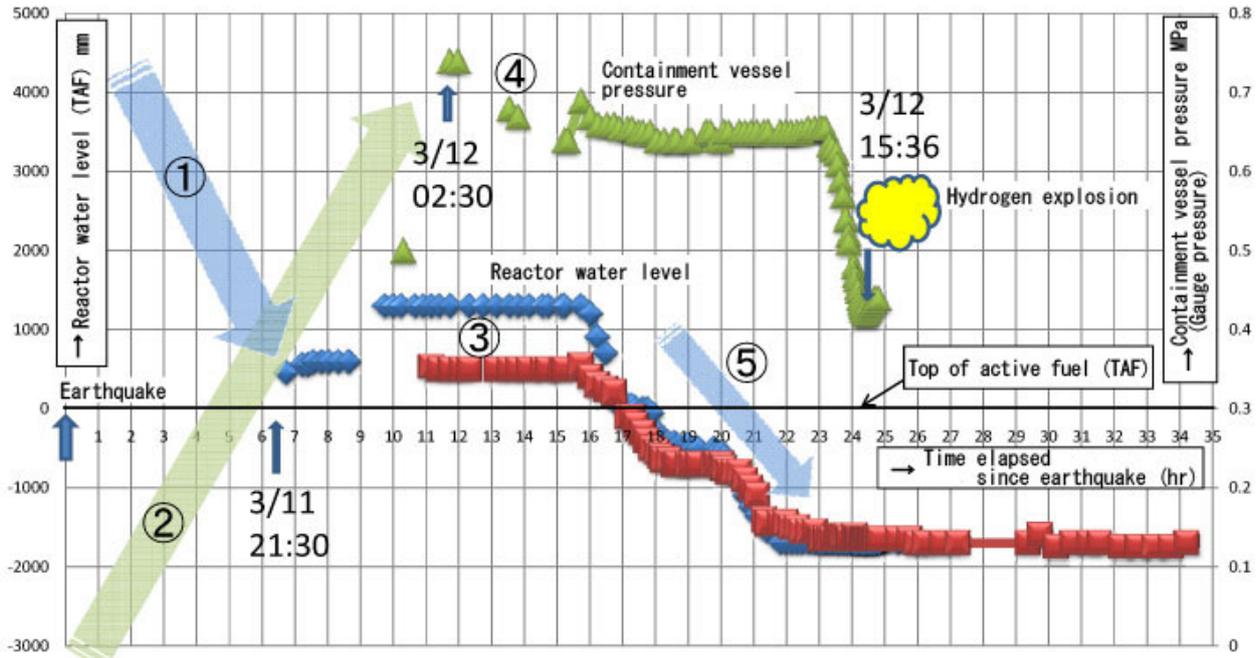


Figure 1. Changes in reactor water level and containment vessel (drywell) pressure

earthquake struck. Figure 1, based on data released by TEPCO on 16 May, shows in one figure both the changes in the 'reactor water level' (the depth of water above 'top of active fuel' [TAF]) and the changes in 'containment vessel pressure' (Note 1) in Unit 1 following the earthquake. Using this figure, I will describe below the outline of the 'LOCA sequence' that I presume occurred in 1F 1.

Note 1: TEPCO released only the 'absolute pressure' data, which includes the atmospheric pressure component, for the containment vessel (drywell and [pressure] suppression chamber) pressure, but since the problem from the viewpoint of structural strength is the 'gauge pressure,' given by subtracting the atmospheric pressure component from the absolute pressure, this figure uses gauge pressure.

Before the earthquake struck, the reactor water level was 5 m above TAF, but some reactor piping (pipes entering or exiting the reactor, such as the main steam pipe, main feed-water pipe, recirculation piping, ECCS-related piping, and so on) was damaged due to seismic motion, and as coolant began to leak from the damaged piping, by 6 hours and 44 minutes after the earthquake struck, i.e. at 21:30 on 11 March, the reactor water level had descended to a level only 45 cm above TAF (Fig. 1, [1]).

The pressure in the containment vessel during normal operation is almost the same as atmospheric pressure (although the gas inside it is not air; nitrogen is enclosed inside it to prevent

hydrogen explosions). Immediately following the earthquake, however, large amounts of coolant at 7 MPa (roughly 70 atmospheres [atm]) began to gush out of the damaged piping, the pressure and temperature inside the containment vessel began to rise gradually, and 11 hours and 44 minutes after the earthquake, i.e. at 02:30 on 12 March the containment vessel pressure rose to 0.74 MPa (about 7.4 atm), greatly exceeding the design pressure (approximately 0.4 MPa, about 4 atm) (Fig. 1, [2]).

Meanwhile, from data released by TEPCO, by almost the same time, 02:45 on 12 March, it is clear that the reactor pressure had declined to 0.8MPa (about 8 atm). Thus, since at about this time the pressure inside the reactor and inside the containment vessel were roughly equal, the leaking of coolant from the damaged piping had slowed, and for several hours after that the reactor water level was almost unchanged (Fig. 1, [3])

Nevertheless, since the pressure in the containment vessel had greatly exceeded the design pressure, steam was beginning to leak from the bolted joint (flange) of the 'upper lid' at the top of the containment vessel, causing the pressure inside the containment vessel to gradually subside (Fig. 1, [4]).

Because of this, the pressure balance between the reactor pressure and the containment vessel pressure collapsed, coolant once again began to gush from the damaged piping, and the reactor water level plunged (Fig. 1, [5]). The result of

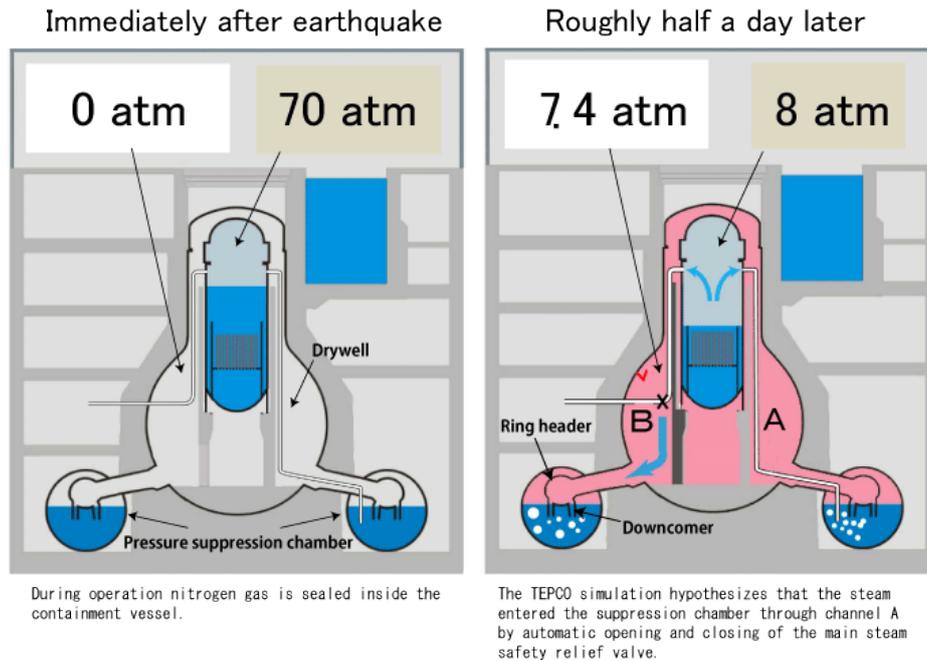


Figure 2. The 'abnormal' rise in containment vessel pressure

this was that the nuclear fuel rods were exposed far above the surface of the water, finally leading to the melting of the vast majority of them. Large amounts of hydrogen being produced by a 'zirconium-steam reaction' within the reactor then gushed out into the containment vessel along with the steam from the damaged piping, and following that, hydrogen, being light, migrated to the top of the containment vessel and finally leaked out into the operation floor through the upper lid flange.

Thus, at 15:36 on 12 March, a hydrogen explosion occurred on the operation floor.

The most puzzling aspect of the accident – Why did the containment vessel pressure exceed the design pressure?

The most puzzling aspect of the 1F 1 accident sequence data is why the containment vessel pressure rose very rapidly from 0 MPa to 0.74 MPa (about 7.4 atm), far above the approximately 0.4 MPa (about 4 atm) design pressure (Fig. 2). I think it is not too much to say that this is the greatest puzzle of the 1F 1 accident. The reason is that the containment vessel design pressure is set to the theoretically presumed greatest overpressure created when the reactor piping with the greatest diameter (in actuality the recirculation outlet pipe) undergoes an instantaneous guillotine break, and then a little more for safety.

I do not believe that a large diameter pipe such as a recirculation outlet pipe experienced a guillotine break at the time of the 11 March earthquake. If such a massive LOCA had taken place, the reactor water level would have dropped precipitously, as if the plug had been pulled out of the bath, but no such phenomenon took place. The

LOCA that I assume occurred was, at least at first, a quite unpretentious one. I think it was a relatively small or medium LOCA of this nature: First, a relatively small crack appeared in some reactor pipe, from which coolant began to blow out, and as this crack grew gradually larger, increasing amounts of coolant began to gush out. However, if this is so, then all the more reason to be puzzled about why, in just half a day after the earthquake struck, the containment vessel pressure rose 'abnormally' and exceeded the design pressure.

Unresolved safety issue of the Mark-I containment vessel

Already by the early 1970s, General Electric (GE, a US company) engineers were whistleblowing the so-called Mark-I containment, used in 1F 1-5 as a 'defective' containment vessel. This was frequently reported in all Japanese media for some time immediately after the Fukushima Daiichi nuclear power plant accident. The issue raised by GE engineers was later named the 'Unresolved Safety Issue' by the United States Nuclear Regulatory Commission (NRC), and in 1980 the NRC published technical guidelines for the issue. What was this unresolved safety issue?

Kindly refer once again to Figure 2. When a pipe breaks and an LOCA occurs, large amounts of steam blow out into the drywell from the crack (marked as B in Fig. 2) and head furiously toward the (pressure) suppression chamber. The steam entering the suppression chamber is at first guided to a doughnut-shaped pipe called a 'ring header,' and is then introduced into the water in the suppression chamber through a large number of pipes known as downcomers. When this happens, the volume of the steam is reduced as it condenses

into water, and thus the pressure is relieved ('suppressed').

However, in fact, 'before' the steam passes through the downcomers and enters the water, the nitrogen gas filling the containment vessel is firstly pushed violently down through the downcomers and into the water. Since nitrogen gas does not dissolve in water, the instant it exits the downcomers the nitrogen gas greatly expands in the water (called 'swelling'). This causes the large mass of water in the suppression chamber to shake violently, both vertically and horizontally. This can result in the ends of the downcomers to come above the water level, failing to introduce the steam into the water correctly. The steam is then ejected into the space at the top of the suppression chamber. The water does not therefore lose volume through condensation and the containment vessel pressure is not relieved (loss of function of the pressure suppression mechanism).

Or perhaps, because of the violent shaking of the water, the downcomers and the ring header were damaged, again possibly resulting in a total loss of function of the pressure suppression mechanism. This issue of the structural strength of the suppression chamber and loss of suppression mechanism brought about by the 'hydrodynamic loads' is the NRC's 'unresolved safety issue.'

In the case of the 1F accident, the problem was extremely severe, since the extra load of the seismic motion was added to the hydrodynamic loads. The large mass of water in the suppression

chamber (1750 tons of water in the case of 1F 1) must have been 'sloshing' violently during the main earthquake and the aftershocks, and thus the suppression chamber mechanism may not have been functioning correctly or the downcomers and ring header may have been damaged.

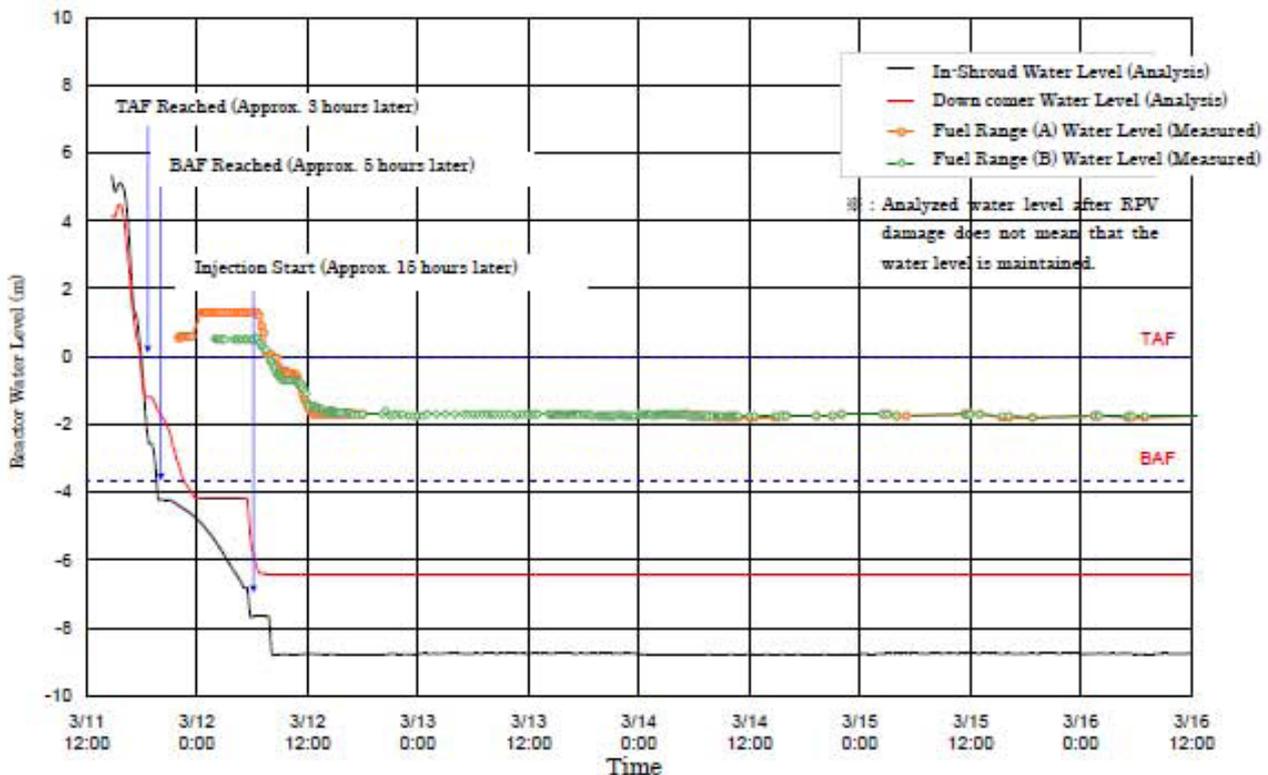
The 'simulation analysis' deception technique

It seems to me that an LOCA occurred due to pipe damage; large amounts of steam blew out into the containment vessel (drywell) heading toward the suppression chamber, but due to the hydrodynamic loads and the 'sloshing' at the time of the earthquake, the structures were damaged and the pressure suppression mechanism was lost. As a result, steam volume was not reduced through condensation, and thus the pressure in the containment vessel rose to 0.74 MPa (about 7.4 atm), and this is the answer to the 'greatest puzzle of the 1F 1 accident.'

Meanwhile, on Sunday, 15 May, TEPCO held an emergency press conference to explain that, as a result of a 'simulation analysis,' 1F 1 had experienced a 'meltdown' (by this term TEPCO apparently meant that molten fuel rods had fallen to the bottom of the reactor) at quite an early stage.

TEPCO did not really need to explain this as it had already become quite obvious to many people that a meltdown had occurred, but perhaps because this was the moment when TEPCO at last 'formally' recognized the fact, this meltdown press conference is still accepted

figure 3



by the general public in a positive and favorable light. In fact, it was clearly a TEPCO ‘trap,’ and most people walked straight into it. In a simulation analysis, you can get any result you want simply by altering the conditions of the analysis (i.e. the input data). However, most people were so surprised by TEPCO’s admission of the so-called ‘high-speed meltdown’ that almost no one thought to ask about the simulation analysis conditions.

Once again, the greatest puzzle of the 1F 1 accident sequence was why the containment vessel pressure rose to 0.74 MPa (about 7.4 atm). TEPCO must naturally have thought at first that it was an LOCA. They probably wondered about what sorts of things could happen to cause the containment vessel pressure to rise to 0.74 MPa. The Mark-I containment vessel’s ‘unresolved safety issue’ must have passed through the analyst’s mind. Certainly, the ‘sloshing’ problem at the time of the earthquake must also have passed through his mind. However, TEPCO would not wish to take up these matters in the simulation analysis, because that would then make an issue out of ‘earthquakes.’ If this were to be presented in a simulation, the ten Mark-I containment vessels still being used in Japan (excluding those used in 1F 1-5) would immediately become a ‘big problem.’

The TEPCO simulation analysis considered no impact from the earthquake. So how did TEPCO manage to arrange for the simulation to achieve the ‘abnormal’ containment vessel pressure rise? **Figures 3 and 4** give the answer. Looking at **Figure 3**, the reactor water level drops precipitously (because the input conditions are set

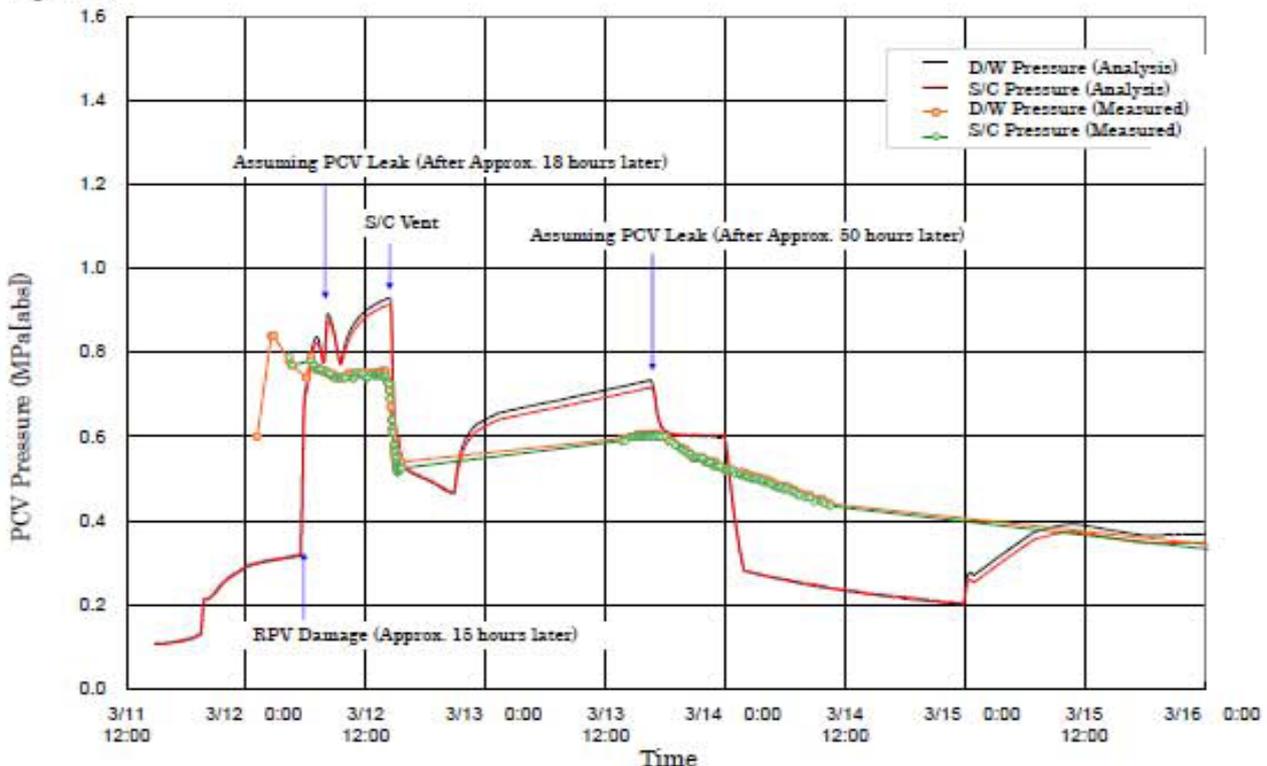
for it to do that, but I will not go into the details here). In this case the fuel rods very quickly melt down. In fact, looking at **Figure 4**, you can see that it says ‘RPV (reactor pressure vessel) damage’ at about 15 hours after the earthquake struck. That is, a meltdown occurred and a hole opened up ‘somewhere’ in the RPV.

As a result, as the meltdown proceeded in the RPV, the high temperature, high pressure gas blasted violently out through that hole into the containment vessel. Thus the containment vessel pressure rose rapidly (**Fig. 4**). This is TEPCO’s ‘simulation analysis’ deception technique.

This is nothing but a ‘voodoo simulation’ in which the earthquake issue is cleverly ignored using the smokescreen of the high-speed meltdown. The undeniable gap between the actual measured values for the reactor water level and the result of the simulation is the very piece of evidence that is needed to see through this disgraceful deception.

Mitsuhiko Tanaka (Science writer; ex-RPV designer)

figure 4



Lax radiation dose calculations continue at Fukushima Nuclear Power Station: CNIC and other groups hold joint negotiations with government on plant worker exposure

At Fukushima Daiichi Nuclear Power Station, workers are being forced to undertake dangerous work while being exposed to high levels of radiation. The plant operator Tokyo Electric Power Co. (TEPCO) continues to be lax with radiation dose calculations, and the mass media are reporting almost daily cases of plant workers exposed to extremely high levels of radiation.

On June 20, TEPCO announced that a total of nine plant workers are known to have been exposed to radiation higher than the legal limit of 250 mSv. (See **Table 1**)

On March 15, four days after the accident at Fukushima Daiichi, the Ministry of Health, Labor and Welfare (MHLW) revised its ministerial ordinance and raised the maximum exposure limit for workers engaged in emergency operations at the plant from 100 mSv to 250 mSv.

On April 28, the ministry issued an administrative notification 0428-1 entitled 'Guidance concerning exposure rates for workers engaged in emergency work when they carry out non-emergency work following the emergency work' to the heads of all regional labor departments. In this notice, the ministry said it will not issue a guidance to the worker even if he exceeds the annual radiation exposure limit of 50 mSv, but will direct him not to exceed the "100 mSv in five years" limit. This is taken as an easing of ministerial action against worker radiation exposure.

On May 2, the Citizens' Nuclear Information Center (CNIC) submitted to the government a request that the government protect the health and safety of both the workers exposed to radiation at Fukushima Daiichi nuclear power plant and local residents, and compensate for damage to their health. CNIC submitted this request jointly with six other groups tackling the problems facing the plant

workers.

On May 16 and June 17, CNIC negotiated with the government jointly with the Japan Occupational Safety and Health Resource Center (JOSHRC) and Campaign Against Radiation Exposure (CARE).

On June 21, CNIC and the six other groups that submitted the request on May 2 engaged in negotiations with the government and held a meeting between the citizens concerned and lawmakers in the Diet building. The citizens participating in the meeting included Koshiro Ishimaru and Tatsuhiko Sato representing the citizens' league in Futaba Town, Fukushima Prefecture, opposing the Fukushima Nuclear Power Station, and Takumi Aizawa from Iitate Village, Fukushima Prefecture.

In the May 16 negotiations, it was revealed that no officials from the Labor Standard Inspection Office (LSIO) have been dispatched to the Fukushima Daiichi Nuclear Power Station since the outbreak of the crisis at the plant in March, except when cabinet ministers visited the plant. According to the ministry, the officials summoned the plant operator to the ministry office whenever necessary in order to avoid exposure to radiation.

At the plant, however, many workers are being forced to work without receiving any of the necessary radiation-related education in advance, and are eating and smoking in the highly contaminated environment. This clearly indicates that there is a need for LSIO officials to visit the plant and inspect the working conditions there. On May 27, LSIO officials finally went to the plant to carry out the inspection.

On March 24, three workers from a TEPCO subcontractor company were exposed to radiation as high as 180 mSv. Why did LSIO not go to the plant and conduct an on-the-spot inspection at that time?

It was later revealed that a female worker was also exposed to a level of radiation in excess of the official limit of a total of 5 mSv over three months, which is stipulated in the Labor Safety and Sanitation Law. We were stunned by the ministry's excessively slow response.

On June 7, the ministry reportedly conducted an on-the-spot inspection to check the working conditions at the plant before determining whether there were problems with TEPCO's and its partner company Kandenko's handling of radiation dose management. As a result, on June 10 the ministry ordered TEPCO to correct practices regarding its failure to prevent the plant workers from being exposed to excessive amounts of radiation in violation of the Labor Safety and Sanitation Law.

In the negotiations on June 17, the Ministry

Table 1: Evaluated external and internal exposure levels of emergency workers who started work at Fukushima Daiichi Nuclear Power Plant up to the end of March (Preliminary values)

Level	TEPCO	Subcontractor	Total
250mSv~	9	0	9
200~250mSv	4	4	8
150~200mSv	20	6	26
100~150mSv	59	22	81
50~100mSv	179	109	288
20~50mSv	271	352	623
10~20mSv	232	523	755
~10mSv	650	1074	1724
Total	1424	2090	3514

(Based on TEPCO report of June 20)

of Economy, Trade and Industry explained why it decided to lift the 50 mSv annual radiation exposure limit on the workers participating in emergency operations at Fukushima nuclear power plant and who intend to go on working at other nuclear power plants. According to the Ministry, TEPCO had demanded the elimination of the limit because it had estimated that the total number of workers who would probably exceed the 50 mSv limit and become unable to work at other plants at around 1600, which would mean that other nuclear power plants may face labor shortages.

Furthermore, it has been revealed that thousands of workers are currently working under very severe conditions in the radiation-controlled areas, but that only one medical doctor is stationed there. Immediately after the accident, there were occasions when no doctor was present. However, since May 14, when a worker died of a cardiac infarction while delivering drainage machinery and materials, a doctor has been stationed in the plant twenty-four hours a day. It is obvious that only one doctor is insufficient for this large number of workers. With the searing summer heat coming on, proper measures need to be taken promptly.

CNIC and other groups have demanded that the government provide them with a list of TEPCO subcontractor companies to which the workers belong. The government, however, stated that it does not know which workers belong to which company. Although MHLW ordered TEPCO to conduct, before the end of June, whole body counter examinations on about 3,700 workers who took part in emergency operations in March, TEPCO is still unable to identify around 30 of the workers.

On June 27, the head of the Industrial Safety and Health Department of MHLW's Labour Standards Bureau summoned medical experts to the ministry to hold discussions on long-term health management of the workers at the Fukushima Daiichi nuclear power plant.

This was the first meeting of its kind and the main objective of the meeting was to discuss how to provide long-term health management, including post-retirement management, for the workers engaged in emergency operations. There are concerns that in the future the workers may have health problems resulting from their exposure to radiation, and the participants of the meeting discussed various issues, such as the types of data that should be included in the database.

In view of this situation, it is necessary for the public to closely monitor the plant workers' exposure to radiation.

Mikiko Watanabe (CNIC)

A list of the requests for protecting the health and safety of nuclear power plant workers and local residents, and for compensating for damage to their health, which was included in CNIC's written request submitted to the government on May 2. This list was presented during the negotiations with the government and in the

meeting held between the citizens and lawmakers concerned in the Diet on June 21.

- 1) *Promptly repeal the 250 mSv radiation exposure limit for the plant workers engaged in emergency operations,*
- 2) *Guarantee non-radiation-related jobs for TEPCO's sub-contractors and affiliated companies' workers who were exposed to radiation exceeding the maximum permissible exposure level in ordinary conditions while engaged in emergency operations. Such jobs should be offered not only to the plant workers who are exposed to a total of 100 mSv or higher in five years, but also to those who absorb a total of 50 mSv or higher in one year,*
- 3) *Determine the total number of plant workers engaged in emergency operations not carrying a dosimeter, and accurately evaluate their external and internal exposure levels, record their readings in the radiation dosage management notebook, and notify them of the results immediately. In addition, strictly manage the radiation dose calculations of not only the plant workers exposed to radiation, but also all other workers as well,*
- 4) *Provide all nuclear power plant workers with health-record books immediately, and manage the condition of their health appropriately. Moreover, provide various types of health management for those who have worked in Fukushima Daiichi plant, including mental care,*
- 5) *Improve the existing extremely poor working environment for the workers dealing with the problems arising from the accident at the nuclear power plant,*
- 6) *Repeal the maximum allowable radiation exposure level for children at 20 mSv/year (3.8 μSv/hour outdoors) stipulated in the "Provisional concept for determining the usability of school buildings and playgrounds in Fukushima Prefecture," and radically lower the limit in consideration of the maximum allowable exposure level for the public. The central government should carry out the removal (or purification) of contaminated topsoil from Fukushima school grounds and take responsibility for this work,*
- 7) *The government should provide the victims of the accident at the Fukushima Nuclear Power Station with a health-record book and take responsibility for management of their health. It should compensate victims for health damage caused by the accident.*

Futaba Anti-Nuclear Energy Alliance, Japan Congress Against A- and H-Bombs, Ibaraki Anti-Nuclear Collective, No Nukes Hiroshima, Citizens' Nuclear Information Center, Campaign Against Radiation Exposure (CARE)

Reassessment of the geological condition of the ground beneath Kashiwazaki-Kariwa Nuclear Power Plant.

Niigata Prefecture should hold an earthquake and ground condition subcommittee meeting as soon as possible.

Although more than 100 days have passed since the accident, nobody knows when and how the problems of the Fukushima Daiichi Nuclear Power Plant (NPP) will be resolved. However, we now see the effects of what the government calls the peaceful use of atomic energy - the continuing trial and error in the work to remove radioactive materials from heavily contaminated water; the danger of further releases of tons of radioactive materials; the difficulties of cooling down the nuclear fuel which has already gone into a state of meltdown; the nuclear reactors, the reactor containments and the reactor buildings in a seriously damaged state; the workers at the plants being exposed to high levels of radiation; children being exposed to radiation on a day-to-day basis; the people of Fukushima distraught as they have little option but to roam from town to town; and many tons of radioactive debris at the accident site.

When the Niigata Chuetsu-Oki Earthquake struck in July 2007, all seven nuclear reactors at the Kashiwazaki-Kariwa NPP shut down. As Niigata Prefecture's technical committee on the safety control of nuclear power plants endorsed the restart of the nuclear plants, four reactors are now operating. However, the four reactors are not safe to run even though they have been restarted, with pro-nuclear people supporting the restart of the reactors and anti-nuclear power people opposing the restart. The people of Niigata Prefecture, for their safety and assurance, wanted the committee to reconsider, pointing out a number of matters the committee had not sufficiently discussed. However, the chairman of the technical committee and each chairman of the other two subcommittees which discuss technical matters repeated only the engineering points of view without due consideration for safety issues, and thus the reactors were restarted. We should not allow the members of these committees to get away with the excuse that the disaster at Fukushima Daiichi NPP was "unforeseeable."

Seismic activity possible in the Madogasaka Fault and the fault immediately beneath the Kashiwazaki-Kariwa NPP

The Great East Japan Earthquake on March 11th was a magnitude 9.0 earthquake, which led to large crustal disturbances. It is likely that these have altered the stress fields over a wide area of the Japanese archipelago.

The next morning, March 12th, an M6.7 earthquake occurred in the area between Niigata

and Nagano Prefectures. The ground under the Iiyama Line, running along the Shinano River collapsed, leaving the railroad track hanging in the air. Heavy damage occurred in Sakae Village, Nagano Prefecture, and in Tsunan Machi and Tokamachi City, Niigata Prefecture. Furthermore, on April 11th, an M7.0 earthquake occurred in Iwaki City, Fukushima Prefecture. A new earthquake fault has shown up on the surface of the ground along the Yunotake and Idotani faults in Iwaki City. From government back-checks concerning earthquakes for the Fukushima NPPs, the government had judged that the Yunotake fault was not active.

The Nuclear and Industrial Safety Agency (NISA) therefore sent an official notice to all electric power companies asking them to report two matters to NISA by May 31st: 1. Reassess the faults, fault geometries, and lineaments which should be considered for seismic design; 2. If there is a fault which will affect the ground under nuclear plants, reassess the potential seismic movements.

Tokyo Electric Power Company (TEPCO) reported to NISA that they had summarized the information about other faults which they did not consider when the nuclear plants were built based on former investigations. They also reported that they would gather data concerning the impacts of the Great East Japan Earthquake and the relationship between earthquakes and faults, which they would reflect in future assessments.

This official NISA notice revealed that nationwide a total of 432 faults were ignored in assessments. NISA issued an additional official notice on June 3rd, to which reports must be submitted by August 31st.

On May 31st, TEPCO reported three faults which were not considered when Kashiwazaki-Kariwa NPP was designed: 1. Hosogoe fault (7 km in length); 2. Madogasaka syncline (11.5km in length); and 3. a fault inside the Kashiwazaki-Kariwa NPP. This fault inside the NPP includes many sub-faults such as alpha-faults, beta-faults, F-faults, and V-faults. If these faults move, reactor buildings or turbine buildings may begin to tilt. The Madogasaka syncline is a fault that runs into the power station from the northwest. If this fault moves, it will probably cause a serious earthquake in which the ground will move. While the local anti-nuclear movement has repeatedly asserted this concern since August 1974, it has been disregarded by the Japanese government

and by TEPCO and scholars who support nuclear power in the Niigata Prefecture's subcommittee on earthquakes and the geological condition of the ground.

Discussion in the Japanese Parliament

If the fault inside the Kashiwazaki-Kariwa NPP or the Madogasaka syncline were active, this would have prevented the Kashiwazaki-Kariwa NPP from being built. The government and TEPCO have therefore repeatedly asserted that these faults will not move as they are old faults.

On November 22nd, 1991, the following discussion was held at the Senate's Science and Technology Special Committee.

Q: If the fault directly under the Kashiwazaki-Kariwa NPP reactor core moves, is the Kashiwazaki-Kariwa nuclear power plant safe? Or is it safe because the fault does not move?

A: Because we recognize that the fault does not move, the plant is safe.

Q: What are the grounds for asserting that the fault does not move?

A: The fault passes through the Nishiyama fault and the lower part of the Yasuda fault, but does not go through the upper part of the Nishiyama fault and the Banjin sand stratum. Based on guidelines for seismic design that the fault should not have moved for over 50,000 years, we concluded that the fault will not move in the future.

On September 2006, the Regulatory Guide for Aseismic Design of Nuclear Power Reactors was revised. The basis for judging an active fault was changed from 50,000 years to 130,000 years in the past; the Late Pleistocene. After the Niigata Chuetsu-Oki earthquake in July 2007, anti-nuclear power representatives asked NISA the

following.

Q: The standard was changed from 50,000 years to 130,000 years in the past. The existence of the fault inside the Kashiwazaki-Kariwa NPP indicates that the plant is in an inappropriate location for a nuclear power plant, doesn't it?

A: The upper Yasuda layer was accumulated after the Late Pleistocene (130,000 years ago). Since the fault does not pass through the Yasuda layer the guideline for plant location has not been contravened.

However, on April 11th 2011, the fault which does not pass through the layer accumulated in the Late Pleistocene moved, suggesting that the standard is clearly deficient. Therefore, although the May 31st TEPCO report disregarded the three faults discussed above for Kashiwazaki-Kariwa NPP, it is possible that the fault inside the Kashiwazaki-Kariwa NPP will cause the most serious damage to the power plant.

Niigata Prefecture's technical committee on nuclear power plant safety held a second meeting on June 21st. Several members pointed out that the government has absolutely no grounds for guaranteeing that other nuclear power plants besides Hamaoka NPP are safe. Some of the members who had formerly agreed with the government also spoke up.

We are seriously concerned for the future of Kashiwazaki-Kariwa NPP, and so since the Fukushima disaster we shall be paying close attention to the discussion in Niigata Prefecture in order to ensure that the details are correctly handled without any further deception.

Kazuyuki Takemoto (Kashiwazaki Alliance Against Nuclear Energy), Yukio Yamaguchi (CNIC Co-Director)

Come and join in the "Goodbye to Nuclear Power Plants" Rally!

We will hold the "Goodbye to Nuclear Power Plants" Rally as follows. Please participate with your family and friends.

Date: September 19th, 2011, Starting at 13:00

Place: Meiji Park, Tokyo

(5 mins walk from JR Sendagaya station, 2 mins walk from the metro Oedo Line 'Kokuritsu Kyogijo' station (Exit E25))

Expected number of participants: 50,000 (There will also be a parade after the rally.)

10 Million People's Action to say Goodbye to Nuclear Power Plants

The executive Committee declares 17th to 19th September as "Fukushima Day" (provisional title), and calls for actions nationally and internationally.

Please share information about your own actions. (Submission form to be prepared)

More information; <http://sayonara-nukes.org/english/>

Anti-Nuke Who's Who

Atsuko Ogasawara**Owner of Asako House, built in the center of the planned Ohma Nuclear Power Plant premises**

by Mayumi Nishioka*

A major earthquake hit eastern Japan on March 11, 2011. The Fukushima Daiichi NPP was critically damaged and has been emitting large amounts of radionuclides since that time. This earthquake-vulnerable country has nuclear power plants nationwide. A small but increasing number of municipalities are adopting antinuclear policies. Regarding the Ohma NPP project, however, politicians and local municipalities are clear about having no plan to give it up.

The town of Ohma, where the nuclear power plant is under construction, is situated at the northernmost tip of Honshu, the largest Japanese island. There are two large plots of land, about one hectare in total, in the middle of the planned NPP premises. Their former owner was the late Asako Kumagai, who opposed the NPP project and did not agree to sell the land to the Electric Power Development Company (J-Power), the would-be operator of the plant. Because of the disagreement with Ms. Kumagai, the company reviewed the construction plan and moved the reactor core position, which was originally very close to her land, about 200 meters. (The reactor core will still be only 300 meters away from the land, if completed.)

Atsuko Ogasawara is Asako Kumagai's daughter. The mother and daughter together built a log house on one of the plots to show their resistance, but Asako passed away in 2006, before moving into the house. Atsuko Ogasawara has been guarding Asako House ever since.

Ms. Ogasawara, whose home is located in Hakodate, the city facing Ohma across the Tsugaru Strait, visits Asako House several times a week to take care of the house and the vegetables she raises there. The antinuclear action she is most committed to is to request people to write to her at Asako House. She always carries prepaid postcards on which the address of Asako House is printed. The one-kilometer pathway J-Power prepared to allow access to Asako House is unpaved and fenced in on both sides. If someone writes to her, a mail carrier must visit the house, treading the pathway. This whole routine implicitly tells the company, and the neighborhood that cannot see the house from the outside, that Asako House is there, and has not been abandoned.

When I visited Asako House in 2008 for the



Atsuko Ogasawara in front of Asako House

first time, soon after the Ministry of Economy, Trade and Industry granted a reactor construction license to J-Power, the movement against the Ohma project was rather small. Subsequently, however, geomorphologists have reported that it is highly possible that there are active faults in the areas near the planned NPP site, and in 2010 a group of Hakodate residents filed a lawsuit against the Japanese government and J-Power to suspend construction. Ogasawara joined the group and delivered a speech during the first oral proceedings.

While having a bright and cheerful character, Ogasawara is often filled with emotion and moved to tears when talking in public. I believe that at such a time she strongly wishes she could show the audience to her late mother. When the Ohma NPP project was announced, many local landowners were against it and refused to sell their land at first. However, one after another, they gave up and finally Asako became the only landowner to own major plots of land in the very center of the premises. In the town, where a great majority of the population was in favor of the project, Asako faced a very lonely struggle.

In late May 2011, a rock festival was held on Atsuko's plots, surrounded by cranes and plant facilities under construction, including the bizarre containment vessel. The festival attracted many supporters and music lovers, and was covered by multiple media outlets. Atsuko, who took over her mother's lone struggle, is no longer alone.

If you wish to send a postcard to Atsuko, please address it to:

Ms. Atsuko Ogasawara, c/o Asako House, 396 Aza Ko-okoppe, Oh-aza Ohma, Ohma Machi, Shimokita Gun, Aomori Prefecture, JAPAN 039-4601

*Mayumi Nishioka is founder of the Ohma Message Flag Project

NEWS WATCH

Lithuania receives bids from Westinghouse and Hitachi-GE Nuclear Energy for NPP project

Lithuania plans to build a nuclear power reactor in Visaginas City, Utena Region, located in the northeastern part of the nation, and is aiming to start operation between 2018 and 2020. Toshiba-affiliated Westinghouse and Hitachi-GE Nuclear Energy have submitted bids for this project. Westinghouse proposed a 1,100 MW AP1000 pressurized water reactor, while Hitachi-GE have proposed an advanced boiling water reactor of the 1,350 MW class. A Korean company had obtained priority negotiation rights for this project in 2010, but withdrew before the end of the year due to disagreements in funding conditions, according to sources.

Obama City's municipal assembly adopts antinuclear statement

The municipal assembly of Obama City in Fukui Prefecture, Japan, which neighbors Ohi Town, where Kansai Electric Power Company has four pressurized water reactors (Units 1 and 2, 1,175 MW each, and Units 3 and 4, 1,180 MW each), unanimously adopted a statement on June 9, 2011 proposing withdrawal from nuclear power generation.

Yamaguchi Prefecture's governor mentions possible suspension of Kaminoseki NPP project

Sekinari Nii, the governor of Yamaguchi Prefecture, mentioned in the prefectural assembly on June 27, 2011 that, in consideration of current circumstances, he would not renew the land reclamation license for the construction of the proposed Kaminoseki Nuclear Power Plant (two ABWRs, 1,373 MW each). The Kaminoseki NPP project, a long-standing issue in Yamaguchi, is scheduled to build the reactors on sea-reclaimed land. The prefecture granted the reclamation license to Chugoku Electric Power Company (CEPCO), the would-be operator of the plant, in October 2008. The license will expire in October 2012. Following the Fukushima Daiichi disaster, the prefecture requested CEPCO to exercise prudence in proceeding with the project. Construction work was actually suspended before that time and it will now be effectively impossible for the operator to complete the reclamation before the expiry. If the governor does not renew the license, the construction will no longer be possible.

Electric power companies hold shareholder meetings

On June 28 and 29, 2011, Japan's ten electric power companies that are operating (or constructing) nuclear power plants, held their annual shareholder meetings. On the 28th, four power companies, Tokyo, Chubu, Hokuriku and Kyushu, as well as Electric Power Development (J-Power), held shareholder meetings, and on the 29th, meetings were held by five companies, Hokkaido, Tohoku, Kansai, Chugoku, and Shikoku. Proposals for withdrawal from nuclear power generation were submitted by shareholders at six of these meetings, but were voted down because major shareholders such as banks and life insurance companies voted against the motions (five to eight percent of shareholders were in favor). Compared with past shareholder meetings, however, more shareholders were in favor of the anti-nuclear proposals, and at Tokyo Electric Power Company's meeting, shareholding Minami-Soma City and Shirakawa City, both in Fukushima Prefecture, supported the anti-nuclear proposals for the first time. Japan Proxy Governance Institute, an institutional investor advisory organization, advised its clients to vote in favor of the proposals, which was also a first instance. Kunio Hiramatsu, Mayor of Osaka City, the company's biggest shareholder, participated in Kansai Electric Power Company's shareholder meeting. He stated that it was the electric power company's responsibility to shift from dependence on nuclear power generation to more diverse energy resources, and requested that the power company make prompt efforts to develop renewable energy sources.

Japanese government requests restart of Genkai NPP reactors

On June 18, Japanese Minister of Economy, Trade and Industry, Banri Kaieda, issued a "safety declaration" for nuclear power generation reactors that are undergoing regular inspections, but the governors of the host prefectures are showing reluctance to give their approval for reactor restarts. Under these circumstances, the government is engineering a bald campaign to restart the operation of Kyushu Electric Power Company's Genkai NPP Unit 2 (PWR, 559 MW) and Unit 3 (PWR, 1,180 MW) reactors, to set a precedent to be followed by other suspended reactors. On June 9, the Nuclear and Industrial Safety Agency (NISA) and the Agency for Natural Resources and Energy (ANRE) explained to Saga governor

Yasushi Furukawa and prefectural assembly members that restarting the Genkai reactors would pose no safety concerns. The assembly of Genkai Town unanimously adopted a statement requesting an early reactor restart on the 17th, and Hideo Kishimoto, Mayor of Genkai Town, expressed his acceptance of the restart. However, the Saga governor had not yet expressed approval. On the 26th, the NISA and ANRE held a local explanatory meeting in Saga City, in which seven "citizen representatives" were selected to participate by an advertising agency. The meeting was broadcast via cable television networks and the Internet. However, even the "citizen representatives" were not persuaded by the claims of safety. On June 29, METI minister Banri Kaieda visited the Mayor of Genkai Town, the Governor of Saga Prefecture, and the Mayor of Karatsu City, which neighbors Genkai Town. On July 4, the Genkai Town mayor met with Toshio Manabe, president of the Kyushu Electric Power Company, and officially delivered

the Town's agreement to restart the reactors. At the time, the Saga governor was intending to approve the restart after extracting a promise from Prime Minister Naoto Kan that the reactors would be "safe." However, it became apparent on July 6 that the management board of the Kyushu Electric Power Company had instructed both its own employees and those of its affiliates to send messages to the cable TV station that broadcast the above-mentioned explanatory meeting in which "citizen representatives" participated (some of the messages would be read out during the meeting). On the same day, the Minister of Economy, Trade and Industry announced that all reactors would be obliged to undergo a new safety test (stress test). The Genkai Town mayor, who became upset about this sudden news from Tokyo, withdrew the Town's agreement to restart the reactors. The Saga governor then indicated that the restart would be unlikely to occur before the completion of the test.

10 Million Signature Campaign to say Goodbye to Nuclear Power Plants

Petition for the Realization of Denuclearization and a Society Focused on Natural Energy

Demands

- 1. We demand the cancellation of construction plans for new nuclear power plants and the planned termination of existing nuclear power plants, including the Hamaoka power plant.*
- 2. We demand that the fast-breeder reactor "Monju" and the nuclear reprocessing plants, which use the most dangerous material on earth, plutonium, not be operated and that they be shut down permanently.*
- 3. We demand an immediate shift in energy policy towards energy conservation and placing natural energy in the center.*

Sponsoring Organization/ Core Promoters

Citizens' Committee for the 10 Million People's Petition to say Goodbye to Nuclear Power Plants

Core Promoters:

Katsuhito Uchihashi, Kenzaburo Oe, Keiko Ochiai, Satoru Kamata, Ryuichi Sakamoto, Hisae Sawachi, Jakucho Setouchi, Takashi Tsujii, Shunsuke Tsurumi

Signature format

http://sayonara-nukes.heteml.jp/nn/wp-content/uploads/2011/07/0620sayonara_genpatu_E2.pdf

Deadline

Initial deadline: 10th September 2011, Second deadline: 20th December 2011, Final deadline: 28th February 2012

How to send the petition

Please send the original copy (duplicate copies and faxes are not accepted) to the above sponsoring organization

c/o Gensuikin, 1F 3-2-11 Kanda Surugadai, Chiyoda-ku, Tokyo 101-0062, JAPAN

More information: <http://sayonara-nukes.org/english/>

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