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What was clarified by The National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission? Focusing on low-level radiation exposure risk

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It is now more than three months since the Fukushima Nuclear Accident Independent Investigation Commission (NAIIC) report was submitted to the government. The NAIIC, given the unanimous approval of all Diet members, was the first investigative commission to be set up by the Diet in the history of constitutional politics, and consisted of ten members under Chairman Kiyoshi Kurokawa. The basic stance of the commission was that this was an investigation emphasizing independence, thorough disclosure of information, human safety, and a future-orientation that would result in the carrying out of recommendations. I think that it was indeed due to the unstinting cooperation of a large number of collaborative investigators and the secretariat supporting the investigatory activities of the members that enabled this important investigation to be carried out and the report prepared in the very short time of six months.

The introduction to the report makes the important points that “the Fukushima Nuclear Power Station accident is not yet over” and “this was a man-made accident” – these conclusions were completely obvious to those who have been critical of nuclear power. As our investigation had national political investigative powers that allowed us to have access to the internal records of government authorities and the power companies we were able to back up those points



Fukushima Daiichi Unit 3 on Sept. 2012, Photo by TEPCO

with actual evidence.

We found that the Nuclear and Industrial Safety Agency (NISA), the Nuclear Safety Commission (NSC) and other regulatory authorities had relaxed their activities due to pressure from the Federation of Electric Power Companies (FEPC), of which TEPCO is a central

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player. They not only failed to perform their original duties, it became clear that they had abandoned their declared purpose of defending the health of the nation. For example, whenever citizens made claims that were backed up by irrefutable evidence, the bureaucrats invariably turned a deaf ear to them and sided with NISA, NSC, the Ministry of Education, Culture, Sports, Science & Technology (MEXT) and other authorities. There must have been many citizens who experienced a sense of futility to the extent that they felt the bureaucrats didn't understand what they were talking about. The cause of this was that the regulators were captured by the power companies and had thus forfeited their responsibility of placing top priority on the lives of the people of the nation. This is truly an insult to the people, and even now, at a time when we still cannot see when the accident will be brought under control, this situation remains unchanged.

Is Exposure to low-dose radiation (below 100 millisieverts) safe?

In the investigation into health effects of the accident, the topic I was mostly responsible for in the NAIC, the forecast was that there would be negative effects in the future. Predicting what kind of effects will appear and then implementing preventative measures is an important area of concern. The key to this is how we evaluate radiation exposure risk. Even after it was clear that large amounts of radioactive material had been released into the environment and that food had been polluted, the then Chief Cabinet Secretary Yukio Edano repeatedly stated that, "the radiation level will not have an immediate impact on health." The Fukushima Prefecture Radiation Health Risk Management Advisor Shun'ichi Yamashita toured Fukushima Prefecture giving talks in which he stated that "up to 100 millisieverts (mSv) is safe,"⁽¹⁾ and the NRC, although later withdrawing the statement, also claimed that there would be no effect on health from a dose of 100 mSv. The Cabinet Secretariat's Working Group on Risk Management of Low-Dose Radiation Exposure (WG) also stated in a report⁽²⁾ released in December last year, "... The risk of cancer at an exposure to a dose below 100 mSv is so small that it would be masked by the carcinogenic impact of other factors, and it is difficult to prove a clear increase in carcinogenic risk from radiation. Nevertheless, from the standpoint of radiation protection, even exposure to low doses of radiation below 100 mSv, based on the notion of standing on the side of safety, where risks are considered to increase linearly with dose, measures to alleviate exposure

risks should be adopted. The health risk from an exposure of 20 mSv per year, the criterion for the current evacuation directive, is of a sufficiently low level when compared with the risks from other carcinogenic factors."

The "notion of standing on the side of safety, where risks are considered to increase linearly with dose (the linear no-threshold model, LNT model)" as used by the Working Group is factually mistaken. The reason why the LNT model was adopted by International Commission on Radiological Protection (ICRP) is not because of "standing on the side of safety" but because it is based on science. As some members of the Working Group are also members of the ICRP they should be aware of that. The National Academy of Sciences committee on Biological Effects of Ionizing Radiation (BEIR) says that the LNT model does not contradict the scientific evidence indicated by recent research.

Thus it is no coincidence that many more statements underestimating the risks of low-level radiation have been made repeatedly in this way since the accident than before it. If one evaluates the risks from the standpoint of the internationally agreed "no safe radiation dose," then it would be necessary to take immediate measures for the protection of the health of the residents living in the contaminated areas, as well as to further reduce radiation standards for food. It was very convenient for the government and TEPCO to decide that "the health risk from an exposure of 20 mSv per year, the criterion for the current evacuation directive, is of a sufficiently low level when compared with the risks from other carcinogenic factors,"⁽²⁾ because, the number of schools that could be reopened, as well as the number communities in which no countermeasures needed to be taken, was significantly higher than if the exposure limit was set lower.

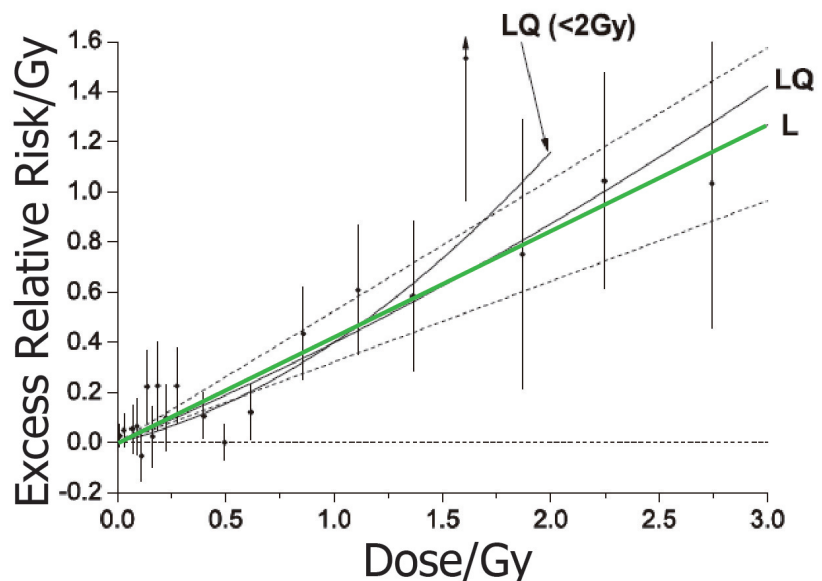


Figure 1. Relationship between dose and excess relative risk of death from cancer (see reference 5)

Basic research on low-level radiation – Proof of risk from epidemiological surveys

Are the views on low-level radiation risks publicized by MEXT, NSC, Professor Yamashita, the WG and so on correct? The cause of cancer begins with failures to repair clustered damage in the DNA, the body's blueprint. It is now recognized that radiation can cause such damage to the DNA. Then from what radiation dose level does the damage begin? It has been shown experimentally that clustered damage occurs from 1.3 milligray (mGy). In the case of X-rays and gamma rays, 1 mGy is equal to 1 mSv. It has also been proven that the number of lesions is proportional to the dose.⁽⁴⁾ Considering that the energy imparted by radiation is orders of magnitude greater than the energy of the chemical bonds that hold the DNA molecule together, it would seem that complex lesions could theoretically occur at even lower levels of radiation.

So what do epidemiological surveys tell us? The results of the Life Span Study (LSS)⁽⁵⁾ of atomic bomb survivors (*hibakusha*) of Hiroshima and Nagasaki are trusted worldwide. The follow-up results for the years 1950 to 2003 were published this year. The follow-up group consisted of 86,611 people, whose average exposure does was 200 mSv, of whom more than 50% had exposures of less than 50 mSv. The control group consisted of 2,500 residents who lived between 3 km and 10 km from ground zero. As shown in Figure 1, the excess relative risk (ERR) for all solid cancers, i.e. excepting leukemia, is best approximated by the straight line L, in which cancers are linearly proportional to dose. This does not fit the linear-quadratic models (which show a convex curve at the lower end in which the slope of the curve becomes smaller in the low-dose region). Figure 2 expresses this in terms of ERR per dose, where

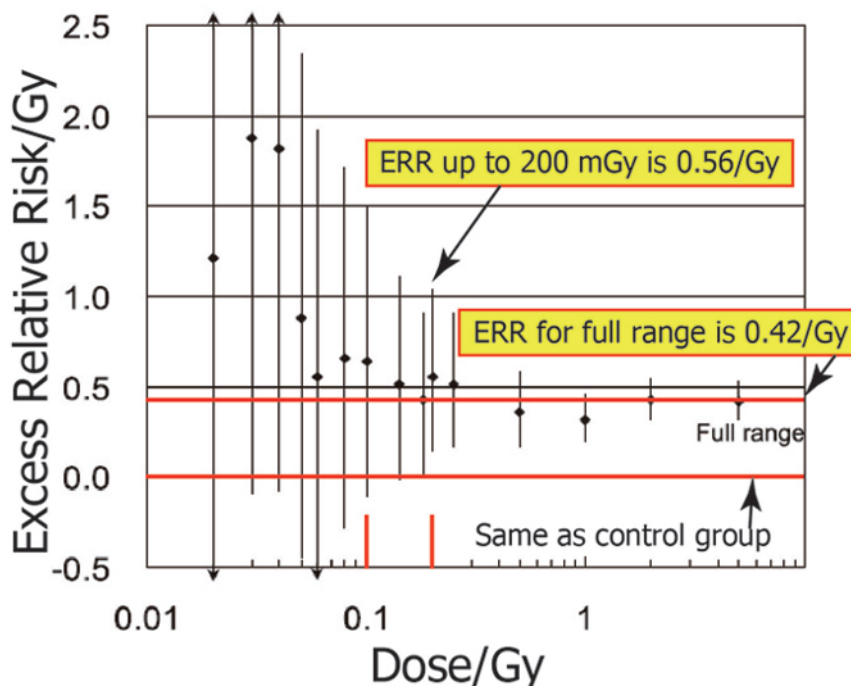


Figure 2. Excess relative risk of death from cancer per dose (partially amended from reference 5)

the ERR is 0.42/Gy for the total dose region, but in the low-dose region below 200 mSv is seen to be 0.56/Gy. If we view this result with an open mind, it would appear impossible to claim that there is no proof of a death risk from cancer below 100 mSv.

Besides the LSS, there are also many other academic papers on studies of groups of people who have suffered long-term exposure to low-dose radiation, such as the 15-country nuclear facility workers study,⁽⁶⁾ the epidemiological survey of the residents of the Techa River basin in the former Soviet Union, where nuclear waste was dumped in the river without the knowledge of the residents,⁽⁷⁾ the study on occurrence of infant leukemia in children under five years of age in the vicinity of nuclear power stations in Germany, the UK and Switzerland,⁽⁸⁾ and the epidemiological survey of leukemia and brain tumors in children who were given CT scans,⁽⁹⁾ proving that there are risks of cancer occurrence and death from cancer below 100 mSv. In spite of this evidence, some radiologists ignore these studies and claim that “the risks are unknown” or that “there is no evidence of risk”.

What the NAIIC revealed about the FEPC's pressure on the ICRP and radiologists

The radiation protection standards of each country are based largely on ICRP recommendations, and thus power companies have a serious interest in the recommendations that the ICRP issues. Relaxation of regulatory values, for example making worker protection less strict, has a bearing on the power companies' bottom line. For this reason, FEPC has urged ICRP members to relax regulatory values. As a result of the NAIIC investigation into FEPC documents,⁽¹⁰⁾ records were found that showed the FEPC not only put pressure on ICRP members but that the power companies' requests were actually carried out.

In one document, it is recorded that “all of the power companies' requests concerning the ICRP 2007 recommendations and so on were accepted.” Regarding cooperation with the NSC Radioactivity Management System Study Group, it was stated that, “The industry's views were incorporated into radiation protection research that should be promoted urgently and with priority,” and “in the short term, we will strengthen approaches based on scientific data to all organizations so that radiation protection standards in the ongoing revision of the International Atomic Agency Basic Safety Standards (IAEA BSS) based on the 2007 ICRP recommendations will be no stricter than necessary in this or

in the following domestic law revisions.”

The power companies were also endeavoring to force a relaxation of radiation protection regulations even before the accident. In regards to research on the health impacts of radiation, there were attempts to push for results that would show minimal negative health effects from radiation exposure, and to influence the views of domestic and overseas specialists towards a relaxation of protection levels and management procedures. Specifically, it was hoped that research, protection and management policies supporting the following views would be promoted.

“Concerning research on dose accumulation: If it is scientifically demonstrated that radiation risks do not accumulate, we may in the future anticipate substantial deregulation, for example as a review of dose limits. Concerning research on non-cancer risks: Since moves, mainly in the EU, demanding strict radiation protection from the viewpoint of the precautionary principle are recently gaining momentum, even though the scientific basis for this is insufficient, there is a necessity to promote research that will not result in excessively strict protection policies being taken for non-cancer risks.”

Moreover, it was also possible to glimpse the fact that power companies maintain a watch on radiation research activities leading toward deregulation. Specifically, TEPCO former vice-president Mutoh stated, “We must keep a watch on research trends so that the research is not taken over by bad researchers who will lead the research in a bad direction.” He has also said, “As a research goal of the Central Research Institute of Electrical Power Industry... we will strengthen approaches to all organizations based on scientific data so that radiation protection standards do not become any stricter than necessary.”

There are currently eight Japanese who are members of ICRP. It has been confirmed that FEPC has been bearing the costs of the ICRP Survey and Research Liaison Association indirectly for many years by covering travel expenses and so on for ICRP members when they attend international conferences through the Japanese Public Interest Organization: The Radiation Effects Association.

In this way, pressure is brought to bear on the regulatory authorities by the power companies for the purpose of lowering the criteria for the evaluation of radiation risk. It is clear that the industry is reaping benefits for itself while radiologists get perks in the form of travel expenses and research budgets.

Conclusion

While the NAIIC report has received a favorable evaluation from society in general, I cannot help but say that the handling of the published report by the Diet has been disappointing. A wide area of Japan has been contaminated by the large amount of radioactive material released in the nuclear accident and thus the foundation of the daily life of the more than 160,000* residents

who lived in the area has been stolen from them. They are being forced to live in evacuation areas for the long term. More than that, the impact on agriculture, forestry, and the livestock and fishing industries looks extremely grave. Many residents wish to evacuate but cannot. Children and young people still continue to live in contaminated areas, and the health effects they may suffer in the coming years and decades is a source of uncertainty and anxiety. Some mothers have evacuated with their children while the fathers remain in order to work, causing possible family breakdowns. No one is has any idea of the number of families involved. Even beyond Fukushima Prefecture, parents are worried about their children’s health. Despite these serious social issues, not one person has yet taken any responsibility for the accident. Dr. Tanaka, who was appointed to head the Japanese Nuclear Regulatory Commission after the NAIIC report was submitted is one whose responsibility for the accident should have been questioned due to the position he held at the time. Furthermore, five of the appointed members of the Japanese NRC have not yet to this day received the approval of the two houses of the Diet, as required by the official Law on the Establishment of the Nuclear Regulatory Commission. This is absolutely incompatible with the recommendations put forward by the NAIIC and is tantamount to a direct affront to democracy.

In closing, I would like to explain why low-dose radiation risks until now have not been considered an issue in Japan. In our investigation we found that the FEPC put pressure on radiation experts and regulatory commission members to play down the effects of low dose radiation. I believe that this stance by the FEPC needs to be further clarified, but the problem is that there is no one in the media who will look into it. I have talked to a number of reporters on the topic, but I have not yet seen an article appear. Exposure to low-dose radiation, especially the exposure of children, is an issue that Japan will have to face in the future. I believe the role of the FEPC in this misinformation deserves to be fully investigated.

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* Asahi Shimbun, Aug. 2, 2012.

The Innovative Strategy for Energy and Environment and its future

The government's Energy and Environment Council (EEC) released its "Innovative Strategy for Energy and the Environment" in the afternoon of September 14, 2012. The innovative strategy was not clearly endorsed by the cabinet. Instead, it was adopted by attaching to it a form of rider statement saying that "the government will put this strategy into practice by holding responsible discussions with the regional governments concerned and the international community, while gaining understanding of the public and constantly reviewing and re-examining policies with flexibility." This statement was made in consideration of both the result of the national debate and the objections from the business sector and the local governments concerned. The following is a report on the contents of the innovative strategy.

In the national debate, the majority of the public supported the nuclear phase-out scenario

The release of the Innovative Strategy came much later than the originally-scheduled summer (July or August). In the national debate, the EEC and others offered the public three energy policy scenario options (see NIT149). The national debate included public opinion polls conducted by the mass media and other organizations, public hearings held at eleven locations nationwide, public comments, and the so-called deliberative poll to solicit opinions from the general public and hold information sessions on the issue. The government entrusted eight external intellectuals with the task of compiling the result of the national debate to ensure neutrality of the report.

The result of the national debate, released on September 4, was titled "Toward the formulation of Japan's energy strategy -- Directions indicated by the national debate"^[1]. The report showed that 1. The majority of the public shared a directionality toward a nuclear-free society, and 2. Nearly half of the public expressed, in some surveys, concerns over the scenario of achieving zero dependence on nuclear power by the year 2030.

The 89,214 public comments sent in during the national debate revealed that 87 percent of respondents chose the zero nuclear power scenario from the three energy mix options, and 78 percent called for an immediate elimination of nuclear power generation. Our organization, Citizen's Nuclear Information Center (CNIC), staged a campaign to encourage people to present their comments to the government. The result appears to show that our efforts contributed to comment submission to some extent. Meanwhile, public opinion polls conducted by the mass media revealed mixed results. In some surveys, a majority of the respondents supported the zero nuclear scenario, and in others, the majority chose the 15-percent scenario.^[2]

This writer feels that that the result of the national debate mentioned in 2. above is rather strange and incongruous. There are several reasons for this. One is that 78 percent of the public comments presented to the government called on Japan to end its dependence on nuclear power immediately. Secondly, there was no mention of the option to discontinue nuclear power generation immediately in the public hearings. The mass media also failed to ask in their surveys how soon the zero nuclear society should be achieved. Taking all of these factors into consideration, it is unclear why the report focused on the speed of reducing the share of nuclear power generation.

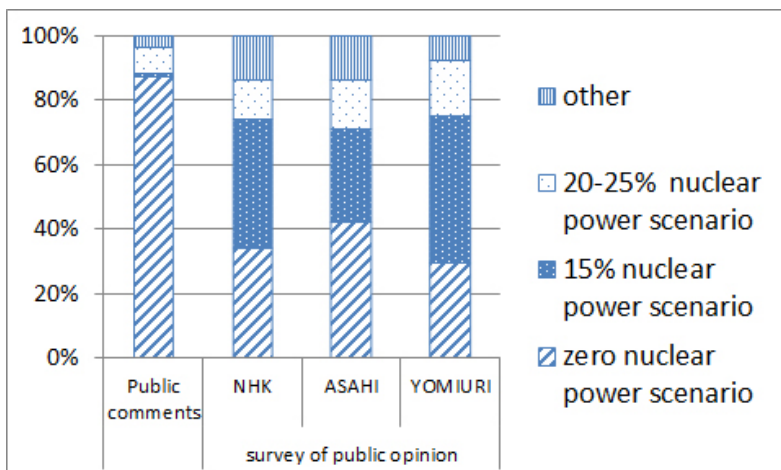
The ruling Democratic Party of Japan set up the Energy and Environment Research Council, chaired by Seiji Maehara, and released a proposal titled "Achieving a Nuclear-Free Society" on September 6 as the party's policy. The council is comprised of Vice Chairman Kiyomi Tsujimoto, Advisor Naoto Kan, Secretary General Yoshito Sengoku, Secretary General Shoichi Kondo, and other members. (There are also other vice chairmen and advisors).

The Innovative Strategy was mapped out in line with this proposal. It has been reported that the formulation process included extremely heated discussions on whether to include the zero nuclear power policy in the proposal, but the council was eventually

swayed to include it by recent massive demonstrations and other popular moves against nuclear power plants.

Contents of the Innovative Strategy, Nuclear phase-out by 2030

To sum up the contents of the Innovative Strategy, its objective is to put all possible policy resources into efforts to shut down all nuclear power plants by the 2030s. To this end, the strategy calls on the government to wage a "green energy revolution," and to promote highly efficient use of thermal power generation, cogeneration, and other thermal power generating systems for the purpose of securing a stable supply of energy. The



The majority of the public supported the nuclear phase-out scenario

strategy also calls for a reform of the electric power system, such as full liberalization of the electric power market, separation of power generation and transmission, and a broad and neutral power transmission and distribution network. These efforts are intended to help the government carry out robust measures against global warming.

As for the reprocessing of spent nuclear fuel, the Innovative Strategy says the project to reprocess such fuel should continue according to existing policy. (Details on this point will be mentioned later.) It also said these policies should be reviewed constantly. To promote joint verification and implementation of these policies by the government and the public, the strategy calls for establishment of an official inspection system within the cabinet secretariat. The Innovative Policy also refers to Japan's nuclear power policy and the Japan Atomic Energy Commission, but this will be taken up later.

Does the strategy make the right compromises?

The reality is that the contents of the Innovative Strategy are a compromise between the zero scenario and the 15% scenario. In any case, this writer thinks highly of the inclusion of the zero nuclear plant policy in the strategy.

Considering that the previous discussions held by the councils of the Ministry of Economy, Trade and Industry (METI) were based on the position that the great expansion of renewable energy would threaten the future of nuclear power generation, the stipulation of the zero nuclear policy in the Innovative Policy is extremely meaningful and significant. Once the direction towards the nuclear-free society is clearly set, various related measures are sure to be formulated and implemented in an orderly fashion. For this reason, it is extremely important for us to decide on the zero nuclear policy now and to strive to inform the public of this policy as widely as possible.

If the direction towards a nuclear phase-out becomes clear, we will be able to continue blocking the restart of the nuclear power plants by making the most of the results of public opinion polls and to eventually achieve zero dependence on nuclear power. Even if some nuclear power plants were to resume operation amid this trend, the meaning of the resumption would be reduced considerably.

Problems of the Innovative Strategy

(1) Retreat from the scenario to achieve a nuclear-free society by 2030

Although the "zero scenario" called for achieving the nuclear-free society as soon as possible before 2030, this was later modified to "by the 2030s." This means that the time of achieving the phase-out will be delayed by 10 years at the most. In spite of the situation where the public comments, public hearings and the deliberative poll revealed that many people supported the zero nuclear plant scenario, their opinions were not fully reflected in the Innovative Strategy. The strategy calls for introduction of all possible policy resources into the efforts to achieve the zero scenario, and if this is fully implemented, it should be possible to achieve the zero scenario much earlier.

(2) The real content of the Innovative Strategy is the same as the 15% scenario

Although the Innovative Strategy calls on the government to put all possible policy resources in its efforts to achieve a nuclear-free society by the 2030s, the government will now begin to work out concrete plans. Moreover, the targets to be achieved by using all possible policy resources are the same as those of the 15% scenario. In the zero scenario, the target amount of renewable energy to be introduced by the year 2030 was set at 350 billion kWh by taking measures against global warming into consideration. However, in the Innovative Strategy, the target amount of renewable energy was reduced to 300 billion kWh, which is the same as that of the 15% scenario.

In the Innovative Strategy, the introduction of new policies, such as full liberalization of the power market and separation of electric power generation and transmission, are clearly stipulated. The government should work hard to implement these policies so that they contribute to a reduction in the share of nuclear power. In spite of the fact that the partial liberalization of the market has already been achieved, the monopoly of the electric power companies has not yet been broken and the environment for full-fledged competition has yet to be created in the market. Considering this, it is necessary for the government to carry out a reform of related systems and regulations to prevent the watering-down of policies in the process of formulation of concrete plans.

(3) Reprocessing of spent nuclear fuel to be continued for the time being

The Innovative Strategy refrained from going into details on the nuclear fuel reprocessing program, and called for continuation of the program for the time being. As for policies which should be given priority under the current circumstances, the Innovative Strategy cited continuation of the nuclear fuel reprocessing program, and initiation of research on the direct disposal of spent nuclear fuel. Referring to the Monju project, the prototype fast-breeder reactor of the Japan Atomic Energy Agency, the strategy proposed a plan in which Monju would be used for research for a limited period of time, the results of the research being evaluated as it is completed. It also proposed that the government promote research and development on technology to reduce nuclear waste, technology to reprocess spent nuclear fuel, and also support research and development on burner reactors*. The strategy called on the government to take responsibility for the back end of the nuclear fuel cycle, and to set up a system in which the government, the relevant local governments and the communities that are using electricity generated by nuclear power plants hold discussions.

These policies were drawn up apparently in consideration of Aomori Prefecture, which hosts the spent nuclear fuel reprocessing plant in Rokkasho Village (As for Monju, opinions of the Ministry of Education, Culture, Sports, Science & Technology (MEXT) were fully reflected.). Aomori Governor Shingo Mimura repeatedly stressed in a meeting of the New Nuclear Policy Planning Council of the Japan Atomic Energy Commission that the prefectural

* There is a plan to use Monju to reduce the volume of spent nuclear fuel by transforming long-lived radionuclides into short-lived ones.

government would send the spent nuclear fuel back to the plants should the central government discontinue the nuclear fuel reprocessing program. In addition, he insisted that the prefectural government would also not accept the high-level waste returned from the UK, and that it would reject the planned construction of an interim storage facility for spent nuclear fuel in Mutsu City, Aomori Prefecture. Confronted with this situation, the government seemed to have felt the need to work out measures for settling this plight.^[3] Previously, the government had apparently hoped that the majority of the public participating in the national debate would support the 15% scenario, which would probably have enabled the government to continue with the nuclear fuel reprocessing project and win the understanding of the Aomori governor. Against this expectation, the public demanded a shutdown of all nuclear power plants. Moreover, the government did not have time to negotiate with the prefectural governor on the nuclear fuel reprocessing project at that time. Given this situation, it is my view that the government was forced to draw up a statement saying that it would discuss the new energy policy with Aomori and other related regional governments and the "international community" with a sense of responsibility, while tackling the spent fuel reprocessing issue according to traditional policy.

Among the policies included in the Innovative Strategy, the policy to commence research on the direct disposal of spent nuclear wastes is new. This writer presumes that both METI and MEXT have not allocated budget to such research thus far because the government has proceeded with the nuclear fuel reprocessing project. The Cabinet's decision on the continuation of the nuclear fuel recycling project has raised the concern that research on the direct disposal of spent nuclear wastes would be neglected, as previously.

The strategy says the government will proceed with the spent nuclear fuel recycling project for the time being but will hold discussions on the long-term policy in a responsible manner. The contents of the discussion are therefore consistent with the government-set goal to idle all nuclear power plants by the 2030s.

In the announcement on the option of the nuclear fuel reprocessing policy made by JAEC on June 21, a rider statement was added stating that a comprehensive evaluation of the business operation of the nuclear fuel reprocessing project will be carried out within the next several years. This decision was not stipulated in the Innovative Strategy, but it is certain that this decision was taken into consideration.

Repercussions from business circles

Three major economic organizations, namely the Japan Economic Federation (JEF), the Japan Chamber of Commerce and Industry (JCCI) and the Japan Association of Corporate Executives (JACE) held a joint news conference on September 18 to express stiff opposition to the zero nuclear policy, saying, "Japan's business circles can never accept the zero nuclear policy." They cited many reasons for their objection, for example, that it would push up the cost of thermal power generation and raise electricity charges, and the consequence of this would be that the Japanese businesses will shift their production overseas,

accelerating the hollowing-out of Japanese industries. They went on to say that this would make it difficult for enterprises to maintain the current level of employment in Japan. They insisted that the zero nuclear plant policy is not consistent with the cabinet's economic growth strategy, which aims to achieve an average economic growth rate of two percent. Moreover, they appeared to have presented all other possible reasons they could think of, including that a nuclear phase-out policy would make it difficult for Japan to develop new technology for ensuring the safety of nuclear power plants and to secure necessary experts in that field, and that such a policy would damage Japan's ties with the United States.

In the 32nd meeting of the Fundamental Issues Subcommittee, METI's Advisory Committee for Natural Resources and Energy, five members, Shoei Utsuda, Sadayuki Sakakibara, Satoru Tanaka, Masakazu Toyoda, and Kenji Yamaji, jointly submitted a written opinion to the effect that the committee should rethink its energy policy so that Japan will maintain a certain level of nuclear power. This is the same request as that made by the economic sector. The committee members, however, cited a decline in the competitiveness of Japanese industries and an outflow of Japan's wealth to overseas markets as the reasons for their position, in addition to the hollowing out of the Japanese industries.

Economic circles are seeking solely their immediate interest. It seems that they want to avoid the big change of a collapse of the nuclear power industry, to expand energy mix options, and to gain a free hand in economic activities. However, they apparently wish to leave the tasks of the clean-up operations of the nuclear disaster at the Fukushima nuclear power plant and the disposal of high-level radioactive nuclear wastes to the government. There will be no bright future for Japanese economic circles if they force the public to accept the negative legacy of nuclear power generation and simply seek profits from their economic activities.

Ambiguous Cabinet decision

It was probably because of such repercussions from the business sector that the government stopped short of approving the Innovative Strategy at a Cabinet meeting on September 19.

Instead the cabinet adopted the statement that the government will "hold responsible discussions on the strategy with local governments hosting nuclear power plants as well as the international community to win understanding from the public," and will "put the strategy into practice in a flexible manner while constantly verifying and reviewing it."

Where's the Japan Atomic Energy Commission (JAEC) going?

The Innovative Strategy stipulated that the government will establish a new nuclear power policy based mainly on deliberations by the Energy and Environment Council, and carry out a fundamental review of JAEC. It called for establishment of a panel which will discuss the feasibility of dissolving or streamlining JAEC, by taking into consideration its functions, for example, of verifying Japan's use of nuclear power for peaceful purposes.

In response to this, JAEC decided at its regular

meeting on October 2 to abolish its Council for a New Framework for Nuclear Energy Policy and its technical subcommittee on nuclear power and the nuclear fuel cycle. At the 29th meeting of the Council, this writer insisted that JAEC itself should work out a reform plan that included the option of JAEC's retention of its organization. Nevertheless, the committee office was reluctant to formulate such a reform plan, saying that the public would not trust a JAEC reform plan anyway. JAEC thereby avoided engaging in self-criticism.

It is now hard to judge whether the plan to have the National Policy Unit of the Cabinet Secretariat formulate new nuclear energy policy is appropriate, or what the government should do with Japan's nuclear watchdog JAEC (although it has not functioned well so far).

Should cabinet ministers formulate the new nuclear energy policy on their own without holding a national debate, amid the current situation where the shifting of policy formulation and implementation from a bureaucrat-led style of governance to governance initiated by politicians is not working well, the policy is likely to be mapped out at the discretion of METI officials. I am seriously worried about this possibility.

This writer hopes full-fledged discussions will be held on energy policy during this chaotic period.

The direction of the Innovative Strategy

Although the Innovative Strategy is the first to stipulate the zero nuclear plant policy, deliberations on the basic energy plan to be drawn up in accordance with the Innovative Strategy and based on the law, have been stalled. Chairman Akio Mimura of the Fundamental Issues Subcommittee of the Advisory Committee for Natural Resources and Energy (senior advisor to Nippon Steel & Sumitomo Metal Corporation, which merged on October 1, 2012) has put a halt to the deliberations on the basic plan. Some media have reported that the subcommittee will draw up the plan after the turn of the year. However, the lower house election is scheduled to be held in December, and a change of government is quite likely to occur. Should this happen, there is a possibility that the Innovative Strategy will be scrapped and the new government will make a policy shift towards maintaining nuclear power.

Meanwhile those who are demanding total elimination of nuclear power are working hard to make the nuclear energy policy the main issue in the next general election.

Hideyuki BAN (Co-Director of CNIC)

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While More Nuclear Power Plants Are Planned in South Korea, the High-voltage Cable Tower Project in Miryang Is Becoming Increasingly Controversial

Satoshi Takano, Energy Justice Actions (South Korea)

Awareness of the controversy spreads due to local resident's suicide by self-immolation in January

Now that the Kori 1 reactor has been restarted, on August 6, 2012, the hottest nuke-related issue in South Korea is the high-voltage cable towers under construction in Miryang, South Gyeongsang Province. The Korea Electric Power Corporation (KEPCO) plans to build 765 kV cable towers to connect the Shin-Kori Nuclear Power Plant with northern South Gyeongsang Province. Over the total distance of 90 km, 162 towers, each 100 m in height, are planned at intervals of 500 m.

According to KEPCO, the purpose of this project is to supply power stably to North and South Gyeongsang Provinces; the company intends to transmit the power generated by the Shin-Kori 3 and 4 reactors, now under construction, and Shin-Kori 5 and 6, now in the planning stage, to big cities.

As this project has unfolded itself, the resistance of locals in one of the regions in which towers are planned has been extremely strong since 2005, when the company began to select tower locations. The region is Miryang, South Gyeongsang Province, where 69 towers are planned within the city limits. The locals are demanding the discontinuation of the tower construction for the reasons that the construction will destroy their life, that the project is

based on an overestimation of power demand, and that electronic radiation from the towers will result in negative influences. The resistance movement has since become more comprehensive and today it demands that the construction of the Shin-Kori reactors, which is the fundamental reason for the tower construction, be cancelled.

Resistance further intensified in September 2011, when local elderly people started to obstruct the construction directly by digging pits in the mountain where the towers were being built and maintaining a 24-hour resistance by having three groups of people rotate in four shifts a day.

Regretfully, however, it was a tragic event that called this resistance to the attention of the public. On January 16, 2012, in Bora Maul, Miryang, Chee-woo Lee committed suicide by setting himself on fire. After this tragedy, KEPCO temporarily stopped construction work, and the controversy became a focus of interest among the South Korean population, especially environment conservation groups. On February 1, the Self-immolated Chee-woo Lee Remembrance Committee Opposing the 765 kV Cable Towers was established, consisting of more than 150 citizen groups and other organizations. It has been leading the resistance actions to date.



Protest movement against the High-voltage Cable Tower Project

City residents show support by visiting Miryang on a Hope for No Nukes bus tour

Citizens from big cities such as Seoul, who had shown no interest in this controversy before, visited Miryang on the first Hope for No Nukes bus tour on March 17 and 18. A cultural festival commemorating Mr. Lee was held with the participation of 1,300 people and young trees were planted on the ground where the construction was planned.

The second bus tour, in which I participated, was organized on April 27 and 28. The view of the actual resistance site was breathtaking. Because the construction was planned in the mountains, we needed to walk quite a long distance. The dump trucks that had been used for construction were left unattended. There were small tents nearby, in which people were staying. Old beds, meager food, and daily needs such as candles were scattered around inside the tents, where no electricity was available. All those I came across there were senior citizens, all of whom seemed to be over 70 years old. It was difficult for me to believe that these elderly people were maintaining their resistance in such a difficult place.

According to an elderly woman, the villagers formed groups of a few dozen people each and took turns to come and protect the tents. She said that it took about one hour to walk there from their homes. I also heard that there were several more resistance locations in Miryang. I wondered how the elderly, who looked

weak at first glance, could have such great energy to fight and resist. I was moved to tears as I listened to their story.

Miryang residents visit the National Assembly and attend a meeting to give statements of evidence

In July, possibly in fear of further expansion of the citizens' coalition, KEPCO reacted contemptibly by suing three locals, claiming damages amounting to 1 billion won (about 900,000 US dollars). KEPCO also made another violent move by filing a provisional injunction against 13 locals, seeking a compensation of 1 million won (about 900 US dollars) for each day the construction was delayed due to the "obstruction." KEPCO also resumed construction work, which had been suspended.

In response to these brutal actions, a dozen Miryang locals visited the National Assembly Building in Seoul on July 23 to attend the Miryang Cable Tower Construction Sufferers Statement Meeting, organized by the Democratic United Party and Unified Progressive Party, to deliver statements of evidence regarding the violent behavior of KEPCO and the construction companies, which were trying to proceed with the construction forcibly.

"Twenty construction company employees broke into the barricade of an elderly woman," said a woman, who was 65 years old. "They twisted her arm and dragged her around. They also broke into my place and I tried to grab hold of the bed as a barricade to stop them getting to me, but 15 employees dragged the bed away, injuring me and many other locals. We had to be taken to the hospital." A man, 72, stated: "When we tried to prevent construction workers cutting down trees, the argument became violent and many locals had their slacks or shoe soles cut by electric saws. The workers insulted us as if we were dogs."

A nun in her 50s, who was unable to attend the meeting, experienced a sexual assault. She was hit in the genitals by the manager of the construction site and lost consciousness. She was sent to the hospital by helicopter and hospitalized for two weeks. While she was in hospital, the manager visited her and said: "I will kill you next year for sure."

Why could such brutal behavior be perpetrated on the elderly, who merely wish to live peacefully on the land where they have their roots? If there had been no nuclear plants, such tragedy would not have occurred. The electric power supplied by use of the towers will be used by city dwellers. It was certain that all of those who attended the meeting understood this discriminatory reality.

Resistance and coalition expand further

In August, the resistance became more intense. On August 1, people set up tents in front of Miryang City Hall to maintain a 24-hour presence there. Resistance tents were also set up in front of the KEPCO Miryang branch and Miryang dam helicopter yard (from where construction materials are sent to the construction sites). Citizens' organizations, university students, and conscientious politicians are joining the local residents at the center of the resistance, expanding the civil coalition with strength and solidarity.

Anti-Nuke Who's Who

Katsumi Furitsu, Japanese activist working for a nuclear-free world

by NAKAGAWA Keiko*

Katsumi Furitsu is a quiet but strong-willed medical doctor, devoting her life to the treatment of radiation victims and participating in various campaigns for peace and a nuclear-free society both at home and abroad. She is also a part-time lecturer (genetics and basic medical radiology) at the Hyogo College of Medicine. Dr. Furitsu is head of the secretariat of the Osaka-based "Chernobyl Relief Group of Kansai," and a member of the "Campaign Against Radiation Exposure." Since 2004, Dr. Furitsu has been a member of the steering committee and science team of the "International Coalition to Ban Uranium Weapons" (ICBUW), and since 2005, a member of the "International Physicians for the Prevention of Nuclear War" (IPPNW).

This year (2012), Dr. Furitsu received the Nuclear Free Future Award (educational category) from the German-based Franz Moll Foundation. This award is granted to individuals or groups contributing to movements to create a nuclear-free world for future generations. The award was given to Dr. Katsumi Furitsu in recognition of her 30 years of work with the Japanese *Hibakusha* (atomic-bomb survivors), and work to publicize radiation risks from nuclear power plants, spent nuclear fuel reprocessing facilities and nuclear weapons.

Dr. Furitsu read a report about workers at nuclear power plants when she was a student, and was greatly shocked by the fact that the operation of the plants was based on the sacrifice of socially vulnerable people. This prompted her to participate in the anti-nuclear movement. After graduating from university, she worked at the Hannan Chuo Hospital in Osaka as a physician and was engaged in the treatment of radiation victims. At the same time, she took part in the hospital's project to examine the physical condition of 1,200 sufferers of the atomic bombing of Hiroshima and Nagasaki who were living in Osaka. The health checkups were conducted during the 1985-89 period. As a result, she came to realize that, even 40 years after the bombing, the patients were still suffering not only from damaged health but also from social discrimination in terms of employment and marriage, anxiety over radiation risks on their descendants, and other mental anguish. The more she knew about their plight, the more she felt the need to prevent such tragedies caused by radiation. Since then, she has actively participated in campaigns against the construction and operation of nuclear power plants in Fukui and Wakayama Prefectures.

In the spring of 1991, Dr. Furitsu visited Belarus, seriously affected by the Chernobyl nuclear catastrophe, and met local residents, who were still suffering great hardship. After returning to Japan, she organized the "Chernobyl Relief Group of Kansai" jointly with her friends. This group is extending both material relief and mental and emotional support to the residents in contaminated regions. Group members visit the disaster area every year to offer medical equipment and other supplies, and to provide local children with financial assistance for medical treatment. Moreover, the group occasionally invites victims to Japan, taking them to Hiroshima and Fukui Prefecture, where many nuclear power plants are located. On those occasions, they hold exchange meetings with local residents and children. This year, the group invited a medical doctor and a teacher from Belarus and held exchange meetings with sufferers of the Fukushima nuclear accident. Immediately after the Fukushima nuclear disaster, Dr. Katsumi Furitsu rushed to Fukushima to provide local residents with advice on how to reduce their exposure to radiation and to conduct an investigation concerning residents' health effects. Starting this year, Dr. Furitsu is visiting Fukushima City once a month to give health-related advice to local residents. She is frequently asked to deliver lectures in Fukushima and her native Kansai region.

Dr. Furitsu flies to many parts of the world, carrying a notebook PC with her. In 1992, she attended the World Uranium Hearing held in Salzburg, and the second world conference on nuclear radiation victims held in Berlin. In 1996, she participated in the International Medical Commission on Chernobyl along with Dr. Rosalie Bertell and her colleagues, and gave testimony at the Permanent People's Tribunal Session on Chernobyl which was held in protest against IAEA, which has greatly underestimated the human damage from the Chernobyl nuclear accident. Furthermore, she visited several areas affected by the impacts of the "nuclear chain," including uranium mine sites on Native American people's land in the Southwest of the US, and in the downwind area of the Nevada test site. She is still communicating with the victims in those areas. Backed by a strong anti-nuclear sentiment, she is working tirelessly for the sake of socially disadvantaged radiation victims, and for me, she seems to be the reincarnation of Dr. Rosalie Bertell.



Dr. Katsumi Furitsu

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NEWS WATCH

Hitachi Buys British Nuclear Power Company

On October 30, Hitachi announced the purchase of British nuclear energy company Horizon Nuclear Power Ltd. (HNP, capital stock £540 million) for £670 million pounds. HNP resulted from an effort by E.ON and RWE in January 2009 to establish a company to move into the UK nuclear power industry, but both companies announced their withdrawal on March 29, 2012 due to the negative financial effects from Germany's nuclear phase-out policy. E.ON also announced complete withdrawal from Finland's nuclear industry. Both companies will continue to invest in offshore wind power and LNG thermal in Britain.

At first, the buyout of HNP attracted China's State National Nuclear Power Technology Corp. with Westinghouse Electric Corp., and then China Guangdong Nuclear Corporation with AREVA NP. However, from Britain's perspective, there were concerns over safety guarantees and unease over nuclear power technology leaks, and from the industry side pessimistic fears developed about investment recovery, leading to withdrawal of all bids by the end of September. Subsequently, Hitachi participated in the bidding at the request of the British government.

Hitachi bought up all of HNP's stock, and is now searching for companies to engage in a joint venture to spread the risk. Hitachi's investment has been reported to be from 50% down to the vicinity of 10%, making the desired risk reduction understood. HNP has construction plans for two to three reactors each for the existing nuclear plant locations at Oldbury and Wylfa (though just one reactor at Wylfa is operating, and that is planned to close in 2014), but, as indicated above, the reason for the Chinese pullout resulted from negative expectations about investment recovery, thus raising questions about the plan's feasibility. Further, Hitachi's ABWR construction plans have not undergone a comprehensive design inspection by the British government, and according to a statement at a press conference by Managing Executive Officer Masaharu Hanyu on October 30, approval "will take five years." During this time, the situation may deteriorate for Hitachi. Even if Hitachi were able to build nuclear plants, they do not have the operating know-how. This looks like it will end up being an expensive shopping spree.

JA's Nuclear Phase-out Policy

On October 11, the JA Group, the Central Union of Agricultural Co-operatives, held an all-Japan conference and came up with a "future nuclear phase-out" policy. JA, however, received a mixed response from the prefectures, especially those hosting nuclear plants. Those prefectures that are suffering from the effects of the Great East Japan Earthquake and the Fukushima nuclear accident, Fukushima, Miyagi, and Ibaraki appealed for a nuclear phase-out (effective immediately), while the Fukui, Aomori, and other prefectural conferences decided not to endorse a "nuclear phase-out" policy.

Ohma Nuclear Plant Construction Restarts

On October 1, J-Power informed Aomori Prefecture's Ohma Town and Hokkaido's Hakodate City, across the Tsugaru Strait from the town of Ohma, of the resumption of construction work on the Ohma Nuclear Plant (ABWR, 1,383 MW), which had been suspended following the Fukushima nuclear accident. Construction recommenced on October 11. Strong resistance was expressed by eleven cities and villages centering on Hakodate City in the southern part of Hokkaido, and resulted in city mayors, heads of town assemblies, and representatives of fishing and agricultural cooperatives visiting Tokyo on the 15th with demands for the government and J-Power to implement an indefinite construction freeze. Hakodate City is preparing a lawsuit to stop the construction. At the Hokkaido Assembly on October 5, the resumption of construction was protested by a unanimous assembly resolution.

Japan-India Joint Statement of Cooperation in Nuclear Power Field

On October 10, the "Sixth Japan-India Energy Dialogue," was held at METI. The conference was attended by Montek Singh Ahluwalia, Deputy Chairman of India's Planning Commission, and Minister of Economy, Trade and Industry Yukio Edano. They issued a joint statement as a pillar of cooperation in the field of nuclear power. Both governments were near to concluding negotiations on a nuclear power agreement, which has been stalled due to the Fukushima nuclear accident, but negotiations did not take place at this meeting.

License Expires for Sea Landfill of Planned Kaminoseki Nuclear Plant

On October 5, Chugoku Electric Power Company applied for a license extension for a sea landfill at the planned location of the Kaminoseki Nuclear Plant reactors 1 and 2 (both ABWR, 1,373MW) with the governor of Yamaguchi Prefecture. Permission for the license was granted in October 2008, and construction was to be finished by October 6, 2012. The license expired on October 6, but the company applied for an extension on the preceding day. The new Governor Shigetaro Yamamoto won the gubernatorial election at the end of July this year with a promise not to allow the license extension. On October 23, however, Yamaguchi Prefecture requested a supplementary explanation with regards to the content of Chugoku Electric's application for the landfill license. The decision, planned by Yamaguchi Prefecture for November 6, was therefore delayed.

The true intentions of Chugoku Electric and Yamaguchi Prefecture are seen as a stalling tactic until the national election to be held in December, when a change in ruling parties may bring about a switch to a policy of nuclear promotion.

Ordinance for Referendum by Citizens of Shizuoka Prefecture on Restart of Hamaoka Nuclear Plant Fails to Pass

An ordinance to hold a referendum by the citizens of Shizuoka Prefecture on the restart of the Hamaoka Nuclear Plant, submitted on September 19, differed from previous examples in the Tokyo Metropolis and Osaka City, where the Tokyo governor and Osaka mayor both opposed the proposal in their respective assemblies. From the start, Governor Heita Kawakatsu attached an opinion in favor of approval, but the Shizuoka Prefecture assembly rejected the original proposal at the General Affairs Standing Committee. The amended nonpartisan version was also rejected by a vote of 48 to 17 in the full prefectural assembly on October 11.

Rokkasho Reprocessing Plant Completion Plans Postponed

The Rokkasho Reprocessing Plant in Rokkasho Village, Aomori Prefecture, has failed in experiments to vitrify high-level waste liquids into canisters, and facility completion plans continue to be delayed. On September 19, just before the planned completion in October, Japan Nuclear Fuel Limited announced the postponement of completion for a further year, altering the completion schedule to October 2013. The Nuclear Regulatory Commission was notified of this on October 4. A widely held view is that the new schedule will be postponed again.

Regulatory Commission Decision on Countermeasure Policy for Nuclear Damage

On October 31, in a policy decision on nuclear disaster countermeasures, the Nuclear Regulatory Commission extended the evacuation zone to a thirty-kilometer radius. A detailed policy explanation is expected within the year. Extending the existing radius from the current eight to ten kilometers for the evacuation preparation zone greatly increases the number of municipalities affected.

Formulation of Nuclear Energy Policy Outline Frozen

In a deliberative conference on October 2, the Japan Atomic Energy Commission (JAEC) decided to abolish the subcommittee that considers the nuclear fuel cycle, since the authority to determine nuclear energy policies has been transferred to the government's Energy and Environment Council. The reason for the existence of JAEC has therefore come into question, and a conference of experts was created in the National Policy Unit for a review of the JAEC's functions. On October 31, an opening conference was held, CNIC's co-representative Hideyuki Ban participating as one of the experts.



NUCLEAR FREE NOW

2012年12月15-16日(土・日) 日比谷&郡山

Date: December 15-16, 2012 Place: Hibiya, Tokyo and Koriyama City, Fukushima Pref.

More Info: <http://npfree.jp/english>

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