A Sociological Study of Observing Niigata Prefecture's Verification Activities for the Fukushima Daiichi Nuclear Power Plant Accident

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Abstract— The history of the verification activities made by Niigata Prefecture is reviewed to examine what kind of challenges the Fukushima accident poses to society in order that nuclear power plants can coexist with local communities. As the conclusion it is a matter of how to reconcile the social desire for safety and anxiety wisely with the endless counter-arguments made by people whose beliefs is to deny nuclear power absolutely.

Keywords- Fukushima accident, social safety and anxiety, nuclear accident investigation, symbiosis with society

Introduction

The Fukushima Daiichi Nuclear Power Plant of Tokyo Electric Power Company (TEPCO) was hit by a huge tsunami caused by the Great East Japan Earthquake on March 11, 2011, when the three reactors melted down one after another, spreading large amount of radioactive release to the surrounding area and forcing the evacuation of all residents in a wide area. After the Fukushima Daiichi NPP accident (hereafter Fukushima accident), the Diet and the Government conducted extensive investigation into the accident and took institutional and legal measures to strengthen safety regulations on NPPs. But even today 13 years after the Fukushima accident, the after effect of Fukushima accident still prevails in Japanese society.

All seven Kashiwazaki-Kariwa (KK) nuclear reactors of TEPCO in Niigata Prefecture, which is adjacent to Fukushima Prefecture, have been in shut down since the Fukushima accident, and the Fukushima accident verification activity had started by Niigata Prefecture in 2012. After many twists and turns over TEPCO's application to restart KK-6 and 7, the Niigata Prefecture's Fukushima accident verification activities was completed in September 2023. This is an important step toward Niigata Prefecture on whether or not agreeing to restart KK-6 and 7 units which is expected to restart in 2024. In this paper, the author of this paper look back on the

political process of the Fukushima accident verification activities with recent developments, in order to reduce issues what we should consider on the symbiosis of nuclear with society from a sociological perspective.

FUKUSHIMA ACCIDENT VERIFICATION ACTIVITY BY FUKUSHIMA PREFECTURE

A. Fukushima accident verification report by Niigata prefecture

On September 13, 2023, the Niigata Prefecture Report on the Fukushima accident verification was issued. [1] The report describes the process of Fukushima accident verification activities and the contents of the report, as will be summarized below:

(1)Process of Fukushima accident verification activities

The Niigata Prefectural Technical Committee (hereafter Technical Committee) had been already installed around 2,000 to oversee the safety management of TEPCO's KK nuclear power plants (NPPs) in Niigata prefecture. From early 2012 after seeing various investigating activities made by Government, TEPCO, the Diet, etc. to respond the Fukushima accident in 2011, the Technical Committee began investigating the causes of the Fukushima accident and various issues brought by the accident.

Subsequently, the Niigata prefectural office thought it necessary to verify by themselves what the cause of the serious accident and what kind of impact it had on the local residents before discussing on the KK NPP. Then in August 2017 the prefectural office decided to set up two sub-committees in addition to the discussion by the Technical Committee. They are sub-committees of (i) Nuclear Power Plant Accident Impact on Health and Life (hereinafter Health and Lifestyle Committee) and (ii) Nuclear Disaster Evacuation Method (hereinafter Evacuation Committee).

And in January 2018, Niigata Prefecture Nuclear Power Plant Accident Verification General Committee (hereinafter the Verification General Committee) was implemented so that it will oversee the activities of those three verification committees.

Since then, Technical Committee, Health and Lifestyle Committee, and Evacuation Committee conducted on their verification activity independently. The prefecture office received four reports in total by the three verification committees independently made one by one until March 2022.

However, according to the prefecture office, Verification General Committee which was established to oversee those three verification committees had not carried out its work in

accordance with its objective, so that the consolidated verification activities were decided to conduct by the prefectural office based on the four verification reports received from the three committees.

(2) Contents of the prefectural verification report

In summarizing the four verification reports, the prefectural office analyzed the four reports to reduce the common important issues. The resultant prefecture's summary of Fukushima accident verification report includes those matters as shown in Table 1 that appear in common in the four reports regarding on the cause of the accident, evacuation, health, and daily life, including (i))description of the situation at the time of the accident as described in the report, (ii) description of each report, and (iii) extracted matters to be considered further.

Table 1 Items described in the verification report of Fukushima accident

- Information transmission Information transmission system, Issues for business operators, Issues for government, information on radiation
- Dissemination and enlightenment of local residents - Nuclear disaster response, Evacuation indoors, Complex disaster response
- Stable iodine tablets When to take them, How to take them for pregnant women, children, etc. How to distribute them
- Screening Matters regarding screening (measurement) and screening points (places of implementation)
- 5. Thyroid test
- 6. Problems faced by evacuees
- 7. Evacuation of persons requiring special consideration
- 8. Utilization of radioactive material diffusion prediction system
- 9. Accident assumption during TEPCO training

Generally speaking, most of the issues in Table 1 are related with the emergency evacuation in the event of severe nuclear accident.

On the same day of September 13, 2023, Niigata Prefecture also released a document titled as Confirmation of Safety Measures and Status of Nuclear Emergency Preparedness Efforts for the KK NPP. [2] This report summarizes the respective roles and measures being implemented by TEPCO, the Nuclear Regulatory Agency(NRA), and the national and local governments to improve emergency response to nuclear power plant accidents, and in particular to be performed by Niigata Prefecture where the KK NPP is located, together with the result of the Fukushima accident verification activities by the prefecture thus far conducted and future initiatives.

The term of all members of all related committees expired with the completion of the above Fukushima accident verification, and in April 2024 new members were appointed to revise the activity of Technical Committee on safety management of the Niigata Prefecture.

C. Governors of Niigata Prefecture involved in Fukushima accident verification

Local politics, not just nuclear power, largely depend on who is elected as the governor as the result of elections. Three governors were involved in directing the nuclear policy of Niigata prefecture: (i)Hirohiko Izumida(October 25, 2004 - October 24, 2016). He started Fukushima verification activity by saying there will be no discussion on KK restart in Niigata. (ii)Ryuichi Yoneyama(October 25, 2016 - April 27, 2018). He started new verification activity by introducing two layer committees, but he resigned in April 2018 due to his own scandal. (iii)Hideyo Hanazumi (June 12, 2018 – present). He finalized the Fukushima accident verification report and dissolved all verification committees.

III. IKEUCHI SPECIAL REPORT

The prefectural office compiled the final verification reports after getting the four reports of the three verification committees individually and published the two documents on September 13, 2023 as described in Chapter II, because there was no verification activity by the Verification General Committee established in January 2018.

However, the author of this paper later found a report by the name of chairman of the Verification General Committee from an article on SNS around December 2023.^[3] Mr. Ikeuchi, former chairman of the Verification General Committee published so-called Ikeuchi Special Report which he independently issued on November 22, 2023. In his report, Ikeuchi claimed Governor Hideyo Hanazumi had "forced him to operate the committee in accordance with the wishes of the prefecture, but he objected and was dismissed."

Mr. Ikeuchi specializes in astrophysics and has published many books to enlighten general public for science. In recent years, he has been recognized as a left-wing scholar. In his special report he makes it clear that he is against restarting nuclear power plant. Why did Niigata Prefecture appoint a person with such a background to chair the Fukushima accident verification committee?

This was due to the strong recommendation of Governor Yoneyama, who became governor after former Governor Izumida on October 25, 2016. However, Yoneyama resigned governor due to his own scandal during his term, and then Governor Hideyo Hanazumi was elected as governor on June 12, 2018. Due to changes in the political situation in Niigata, there aroze a conflict of opinion with the prefectural office led by Governor Hideyo Hanazumi regarding on how to finalize the investigation on the Fukushima accident. Mr. Ikeuchi insisted that (i) he would like to fed back citizen opinions to the verification work through town meetings, (ii) he would like to deal with the issue of the KK NPP which is about to be restarted, and (iii) he would like to address the issue of rumors caused by the treated water from the Fukushima nuclear power plant. Mr. Ikeuchi opposed the prefectural office who wanted to finalize the examination of the Fukushima accident verification activity on the basis of the four reports from the three verification committees, by saying that he could not accept the prefectural office's conditions and the two parted away. Afterwards, the author of this paper downloaded his report from SNS and examined its contents, and found that it was structured as shown in Table 2.

Table 2. Contents of Ikeuchi special report

Individual items and	Contents
the corresponding	
chapters in the report	
Background to the dismissal	Intention of writing the
of the verification	Ikeuchi Special Report and
committee chairman	the circumstances leading to
(Introduction and	the dismissal of the
Chapter 1)	verification general
	committee chairman
Analysis of the verification	Overview and problematic
report by the prefecture	issues to be clarified of
(Chapters 2 to 5)	each verification report of
	the technical committee,
	lifestyle subcommittee,
	evacuation committee, and
	health subcommittee.
Eligibility of various	Point out the lack of
institutions (Chapter 6)	suitability of TEPCO,
	National and local
	governments, NRA, and
	Courts
Problems caused to regions	Rumor issues, Impact on
and local governments	agriculture, fisheries,
(Chapter 7)	commerce and industry,
	Issues with surrounding
	local government staff

Countermeasures against	Blind spots in nuclear
terrorism and war against	power plant safety
nuclear power plants	management, Actual
(Chapter 8)	counterterrorism measures,
	Soft terrorism, Cyber
	terrorism, General
	terrorism, Evacuation, Self-
	Defense Forces, Nuclear
	power plants and war
Utterance of personal	Nuclear power plants
criticism on nuclear power	violate human ethics and
(Chapter 9)	deny human sovereignty
	and independence. "Failure
	studies" which seeks to
	advance technology by
	overcoming failure, cannot
	be applied to nuclear power
	plants. Local governments
	should not be dependent on
	central government.

The Ikeuchi Special Report lists a variety of issues that have been widely discussed in Japan from the perspective of safety and security, because the impact of Fukushima accident has not been only on the affected area of Fukushima Prefecture but on the whole Japan. But how is he going to summarize the investigation of the Fukushima accident commissioned by Niigata Prefecture? Rather than focusing on the three reports of verification committees that Niigata Prefecture had hoped, Mr. Ikeuchi would like to broaden the matter: He not only criticizes those three reports but he also criticizes TEPCO, NRA, Niigata prefecture, Japanese Government, and the Court. Moreover, Mr. Ikeuchi's daily words and actions since becoming committee chairman seem to align with the anti-nuclear movement that denies restarting nuclear power plants in line with his own ideology.

Mr. Ikeuchi was shunned because the prefectural authorities decided that he could not be neutral as the chairman of the Fukushima Accident Investigation Committee, given that Niigata Prefecture has traditionally had both opinions for and against nuclear power plants.

However, the publication of the Ikeuchi summary report with the above content is favorable for the residents' movement against restarting operations in Niigata Prefecture, and is likely to give more momentum to the anti-restarting movement in the future. Mr. Ikeuchi is already cooperating to anti-restart campaigns in Niigata Prefecture. In the future, Ikeuchi's summary report will likely be used as a bible for these opposition movements that are expected to proceed in various ways. The major grounds for this opposition movement will be, among other things, (i) problems with the safety culture that remain in TEPCO and (ii) the problems in emergency response plan, especially the evacuation plan.

• IV. CONCLUDING REMARKS

After then, reports of wrong handlings of security and troubles in maintenance have still continued at TEPCO's KK NPP, and the NRA repeatedly ordered improvement even operation ban orders. But recently after the NRA decided that TEPCO meet the operating qualification conditions, TEPCO would simply wait for the prefecture's decision to approve the restart of the KK-6 and 7.

However, the situation has changed due to the Noto Peninsula earthquake occurred on January 1, 2024. Due to the extensive ground upheaval and cracks in the Noto Peninsula area caused by the Noto Peninsula Earthquake, the NRA's site review for the Shika NPP will be reconsidered, and this will also affect the restart of the KK NPPs. This is particularly likely to affect resident evacuation plan. In fact, it is very difficult for the people whose house is broken or stumbled completely by big earthquake is difficult to stay at home to avoid radioactive fallout or to move to a strong concrete building by car or by foot through the broken road covered by mud, sand, and fallen trees because of extensive land slide by earthquake. (This situation is different from that of Fukushima accident in 2011).

At this time, the activities of the new members of technical committee were a source of concern for the Niigata prefectural office as to how much of its presence would be able to make in the media coverage, along with the anti-restart movement backed by the Ikeuchi special report. This is because mass media prefers crazy ideas with exaggerated risky stories to pick up on newspapers and broadcasting.

In 1990's, the author of this paper had participated in the safety review of the TEPCO's Kashiwazaki-Kariwa Units No.6 and 7 of ABWR, the world's most advanced nuclear power reactor at the time. Around the time of the 2002 all 12 units of TEPCO NPP both in Fukushima and Niigata prefectures had been shut down due to the so-called scandal case by concealing scratches on the nuclear reactor vessels, the author of this paper was nominated as a member of the Niigata Prefectural Technical Committee to improve the human factors issues of TEPCO's NPP management. Then at the time of 2007 Chuetsu Oki Earthquake when all seven reactors at the KK reactors were shut down, he cooperated as a member of the Technical Committee to recover and re-start all KK reactors. He also had been a member of the Technical Committee at the time of Fukushima accident and to take part in the discussion until October, 2016. before the resign of the then Governor Izumida. I resigned the Technical Committee at the time because I thought the restart of Niigata Prefecture's TEPCO reactors would be very difficult by seeing the

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overall situations surrounding the nuclear industry after Fukushima accident.

The author of this paper argues that Japan's nuclear power industry, which had been carried out under the national policy with business management by private industries, lost its status as an important power source in the wake of the TEPCO Fukushima accident in March 2011, and has faced numerous difficulties in its recovery. His book, titled ``Thinking nuclear power at a crossroads," was published in 2021, the 10th anniversary of the Fukushima accident. [4]

Restarting TEPCO's Kashiwazaki-Kariwa Units 6 and 7 is a major hurdle that must be overcome on the road to recovery for Japan's nuclear power business.

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[3]R. Ikeuchi, Ikeuchi special verification report, December 2023 (In Japanese)

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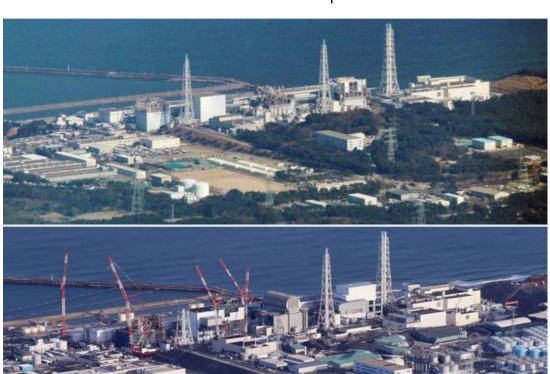
INTRODUCTION **FUKUSHIMA** ACCIDENT VERIFICATION **ACTIVITY BY** NIIGATA PREFECTURE \prod IKEUCHI SPECIAL REPORT CONCLUDING IV REMARKS



Chapter I. INTRODUCTION Fukushima Daiichi NPP

Fukushima Daiichi NPP before Accident and at present

- After the Fukushima Daiichi NPP accident (hereafter Fukushima accident)in March, 2011, the Diet and the Government conducted on extensive investigation into the accident and took institutional and legal measures to strengthen safety regulations on NPPs.
- But even today 13 years after the Fukushima accident, the after effect of Fukushima accident still prevails in Japanese society.
- Especially the restart of TEPCO's Kashiwazaki-Kariwa Units 6 and 7 (KK-6 and 7) becomes a hot issue since the new year day of this year.



Chapter I. INTRODUCTION

- All seven Kashiwazaki-Kariwa (KK) nuclear reactors of TEPCO in Niigata Prefecture, which is adjacent to Fukushima Prefecture, have been in shut down since the Fukushima accident, and the Fukushima accident verification activity had started by Niigata Prefecture in 2012.
- After many twists and turns over TEPCO's application to restart KK-6 and 7, the Niigata Prefecture's Fukushima accident verification activities was completed in September 2023. This is an important step toward Niigata Prefecture on whether or not agreeing to restart KK-6 and 7 units which is expected to restart in 2024.
- In this paper, the author would like to look back on the political process of the Fukushima accident verification activities with recent developments.

Kashiwazaki-Kariwa Unit 6 and 7



A. Fukushima accident verification report by Niigata prefecture

Process of Fukushima accident verification activities No.1

- The Niigata Prefectural Technical Committee (hereafter Technical Committee) had been already installed around 2,000 to oversee the safety management of TEPCO's KK nuclear power plants (NPPs) in Niigata prefecture.
- From early 2012 after seeing various investigating activities made by Government, TEPCO, the Diet, etc. to respond the Fukushima accident in 2011, the Technical Committee began investigating the causes of the Fukushima accident and various issues brought by the accident.
- Subsequently, the Niigata prefectural office thought it necessary to verify by themselves what the cause of the serious accident and what kind of impact it had on the local residents before discussing on the KK NPP.
- Then in August 2017 the prefectural office decided to set up two sub-committees in addition to the discussion by the Technical Committee. They are sub-committees of (i) Nuclear Power Plant Accident Impact on Health and Life (hereinafter Health and Lifestyle Committee) and (ii) Nuclear Disaster Evacuation Method (hereinafter Evacuation Committee).

Process of Fukushima accident verification activities No.2

- And in January 2018, Niigata Prefecture Nuclear Power Plant Accident Verification General Committee (hereinafter the Verification General Committee) was implemented so that it will oversee the activities of those three verification committees
- Since then, Technical Committee, Health and Lifestyle Committee, and Evacuation Committee conducted on their verification activity independently. The prefecture office received four reports in total by the three verification committees independently made one by one until March 2022.
- However, according to the prefecture office, Verification General Committee which was established to oversee those three verification committees had not carried out its work in accordance with its objective, so that the consolidated verification activities were decided to conduct by the prefectural office based on the four verification reports received from the three committees.
- On September 13, 2023, the Niigata Prefecture Report on the Fukushima accident verification was issued. The report describes the process of Fukushima accident verification activities and the contents of the report.

A. Fukushima accident verification report by Niigata prefecture

Contents of the prefectural verification report

- In summarizing the four verification reports, the prefectural office analyzed the four reports to reduce the common important issues. The resultant prefecture's summary of Fukushima accident verification report includes those matters as shown in Table 1 that appear in common in the four reports.
- Generally speaking most of the issues in Table 1 are related with the emergency evacuation in the event of severe nuclear accident.

Table 1 Items described in the verification report of Fukushima accident

- 1. Information transmission Information transmission system, Issues for business operators, Issues for government, information on radiation
- 2. Dissemination and enlightenment of local residents Nuclear disaster response, Evacuation indoors, Complex disaster response
- 3. Stable iodine tablets When to take them, How to take them for pregnant women, children, etc. How to distribute them
- 4. Screening Matters regarding screening (measurement) and screening points (places of implementation)
- 5. Thyroid test
- 6. Problems faced by evacuees
- 7. Evacuation of persons requiring special consideration
- 8. Utilization of radioactive material diffusion prediction system
- 9. Accident assumption during TEPCO training

B. Progress until dissolution of Verification Committee

- On the same day of September 13, 2023, Niigata Prefecture also released another document on Confirmation of Safety Measures and Status of Nuclear Emergency Preparedness Efforts for the KK NPP
- And at the same time, the Prefecture office announced that the terms of all the members of all the related committees were ended with the completion of the above Fukushima accident verification activity, and in April 2024 new members were appointed to revise the activity of Technical Committee on safety management of the Niigata Prefecture.

C. Three Governors of Niigata Prefecture involved in Fukushima accident verification



(i)Hirohiko Izumida (October 25, 2004 - October 24, 2016). He started Fukushima verification activity by saying there will be no discussion on KK restart in Niigata.



(ii)Ryuichi Yoneyama
(October 25, 2016 - April 27, 2018).
He started new verification activity
by introducing two layer committees,
but he resigned in April 2018
due to his own scandal.



(iii)Hideyo Hanazumi
(June 12, 2018 – present).
He finalized the Fukushima accident verification report and dissolved all verification committees.

Local politics, not just nuclear power, largely depend on who is elected as the governor as the result of elections.

Chapter III. IKEUCHI SPECIAL REPORT

- As described in Chapter II, the prefectural office published the two documents on September 13, 2023 because there was no verification activity by the Verification General Committee which had established in January 2018.
- However, the author of this paper later found a report by the name of chairman of the Verification General Committee from an article on SNS around December 2023.
- Mr. Ikeuchi, former chairman of the Verification General Committee published so-called Ikeuchi Special Report which he independently issued on November 22, 2023.

- In his report, Ikeuchi claimed Governor Hideyo Hanazumi had "forced him to operate the committee in accordance with the wishes of the prefecture, but he objected and was dismissed."
- Why did Niigata Prefecture appoint a person to chair the Fukushima accident verification committee?
- This was due to the strong recommendation of Governor Yoneyama. However, Yoneyama resigned governor due to his own scandal during his term, and then Governor Hideyo Hanazumi was elected as governor.

Chapter III. IKEUCHI SPECIAL REPORT

- Due to changes in the political situation in Niigata, there arose a conflict of opinion with Mr. Ikeuchi and the prefectural office led by Governor Hideyo Hanazumi regarding on how to finalize the investigation on the Fukushima accident.
- Mr. Ikeuchi opposed the prefectural office who wanted to finalize the examination of the Fukushima accident verification activity on the basis of the four reports from the three verification committees.

- Mr. Ikeuchi 's major points would be:
- (i) fed back citizen opinions to the verification work through town meetings,
- (ii) deal with the safety issue of KK6 and 7, and
- (iii) address the issue of rumors caused by the treated water from the Fukushima nuclear power plant.
- (See the contents of Ikeuchi Special report in Table 2).

Table 2. Contents of Ikeuchi special report

Individual items and the corresponding chapters in the report	Contents
Background to the dismissal of the verification committee chairman (Introduction and Chapter 1)	Intention of writing the Ikeuchi Special Report and the circumstances leading to the dismissal of the verification general committee chairman
Analysis of the verification report by the prefecture (Chapters 2 to 5)	Overview and problematic issues to be clarified of each verification report of the technical committee, lifestyle subcommittee, evacuation committee, and health subcommittee.
Eligibility of various institutions (Chapter 6)	Point out the lack of suitability of TEPCO, National and local governments, NRA, and Courts
Problems caused to regions and local governments (Chapter 7)	Rumor issues, Impact on agriculture, fisheries, commerce and industry, Issues with surrounding local government staff
Countermeasures against terrorism and war against nuclear power plants (Chapter 8)	Blind spots in nuclear power plant safety management, Actual counterterrorism measures, Soft terrorism, Cyber terrorism, General terrorism, Evacuation, Self-Defense Forces, Nuclear power plants and war
Utterance of personal criticism on nuclear power (Chapter 9)	Nuclear power plants violate human ethics and deny human sovereignty and independence. "Failure studies" which seeks to advance technology by overcoming failure, cannot be applied to nuclear power plants. Local governments should not be dependent on central government.

Chapter III. IKEUCHI SPECIAL REPORT

- The Ikeuchi Special Report lists a variety of issues that have been widely discussed in Japan from the perspective of safety and security, because the impact of Fukushima accident has not been only on the affected area of Fukushima Prefecture but on the whole Japan.
- But how is he going to summarize the investigation of the Fukushima accident commissioned by Niigata Prefecture?

- Mr. Ikeuchi would like to broaden the matter, rather than focusing on the three reports of verification committees that Niigata Prefecture had hoped.
- He not only criticizes those three reports but also criticizes TEPCO, NRA, Niigata prefecture, Japanese Government, and the Court.
- Moreover, Mr. Ikeuchi's daily words and actions since becoming the committee chairman seem to align with the anti-nuclear parties that deny restarting nuclear power plants which seems in line with his own ideology.

Chapter III. IKEUCHI SPECIAL REPORT

- Mr. Ikeuchi was shunned because the prefectural office thought that the chairman of the Fukushima Accident Investigation Committee should be neutral.
- Mr. Ikeuchi seems to cooperating with anti-restart campaigns in Niigata Prefecture. The major grounds for this opposition campaign will be, among other things,
- (i) problems with the safety culture that still remain in TEPCO, and
- (ii) the problems in emergency response plan, especially the evacuation plan.

- Concerning (i), reports of wrong handlings of security and troubles in the maintenance work had still continued at TEPCO's KK NPP, and the NRA repeatedly ordered TEPCO to improve its safety management, and even ordered short time operation ban.
- But soon after the NRA decided that TEPCO meet the operating qualification conditions, TEPCO would simply wait for the prefecture's decision to approve the restart of the KK-6 and 7.

Chapter IV. CONCLUDING REMARKS

- However, the situation has changed due to the Noto Peninsula earthquake occurred on January 1, 2024. Due to the extensive ground upheaval and cracks in the Noto Peninsula area caused by the Noto Peninsula Earthquake, the NRA's site review for the Shika NPP will be reconsidered, and this will also affect the restart of the KK NPPs.
- This is particularly likely to affect resident evacuation plan. In fact, it is very difficult for the people whose house is broken or stumbled completely by big earthquake is difficult to stay at home to avoid radioactive fallout or to move to a strong concrete building by car or on foot through the broken road covered by mud, sand, and fallen trees because of extensive land slide by earthquake



Chapter IV. CONCLUDING REMARKS

- After all, humans cannot prevent natural disasters (large earthquakes and accompanying tsunamis). At present, it is not possible to predict the region and the magnitude of the disaster when it occurs. (In the event of such a natural disaster, it is the responsibility of the national and local governments to respond to disaster prevention.)
- However, in the area where the nuclear power plant is located, it should be absolutely avoided that a nuclear disaster by meltdown accident occurs at the same time (so that the national and local disaster prevention measures may not need to respond to the additional nuclear disaster.)

- Therefore, for the operators who build and operate nuclear power plants and for the regulators who permit them and supervise their operation should be required
- (1) to prepare measures to prevent the nuclear power plant from meltdown even in the event of big natural disaster, and to prevent widespread radioactive release from occurring outside the site of the nuclear power plant, and
- (2) to have an organizational structure that has the ability to reliably cope with its implemented measures to prevent from further adding a nuclear disaster in the event of a big natural disaster.
- According to the present Nuclear Disaster Prevention Act in Japan, In the event of Nuclear Disaster report from NPP, prompt evacuation of all residents in EPZ (within 5 km from NPP) while residents in UPZ (from 5 km up to 30 km from NPP) must stay in home for a while.

Thank you very much for your kind attention.

