

SUMMARY OF PROCEEDINGS
21th NUCLEAR REFORM MONITORING COMMITTEE MEETING

1. Time/Date 10 AM-12 PM, Tuesday, February 13, 2024
2. Place: 10th floor, West conference room, Tokyo Electric Power Company Holdings, Inc. Head Office
3. Attendees:
 - Chairman Klein
 - NRMC member Mr. Masafumi Sakurai (Absent)
 - NRMC member Mr. Amir Shahkarami
 - NRMC member Dr. Mariko Nishizawa
 - NRMC member Mr. Yoshimitsu Kobayashi
 - NRMC member Mr. Shoichiro Onishi
 - Secretary General Shiro Arai
 - Nuclear Reform Special Task Force Director Tomoaki Kobayakawa (TEPCO Executive President)
 - Nuclear Reform Special Task Force Secretary General Toshihiko Fukuda (Executive Vice President)
 - Executive Vice President Akira Ono
 - Managing Executive Officer Takeyuki Inagaki (Kashiwazaki-Kariwa NPS Site Superintendent)
 - Managing Executive Officer Takahiko Yoshida

4. Summary:

◆ **Opening greetings from the Chairman and comments from members**

Chairman Klein

It's good to be back in Japan. I would like to start with just five comments, three positives, and a couple of cautions.

The first positive one is the report that Mr. Sakurai did on safety culture was very positive. In a future NRMC meeting, we will have Mr. Sakurai give a more detailed report. My second point is to congratulate you on the safe water release at 1F. That's very important for the country of Japan and the world at large.

My third positive comment is regarding the progress at KK. I was able to see KK last December when I was here and the plant looked very good. It's moved from construction to operation and I'm sure we'll hear more about that today.

My two cautions concern the recent contamination of workers at 1F and the

slight release of radioactive water at 1F that resulted in negative publicity since TEPCO needs to continue to gain the public's trust both at 1F and at KK.

Dr. Nishizawa

At Fukushima Daiichi the discharge of ALPS-treated water has begun, and the inspection category change has been made for Kashiwazaki-Kariwa thereby marking the start of different phases at each plant. However, even though a new phase has been entered, there has been no change to the fact that the trust of society must be regained. On the contrary, I believe this will become more important than ever.

I study dialogue with stakeholders in Europe and United States, and engage in it in Japan, and from my perspective I believe that earning “credibility” through equipment reliability and improving the safety of hardware is slightly different from earning “trust.”

Of course, equipment needs to be safe in order to earn trust, but as we move into this new phase, it will become more important to figure out how the people and departments operating this equipment can earn trust. This is the exact phase that TEPCO is in right now, and TEPCO must examine how to carefully engage in dialogue with regional residents and local governments, and how to build trust with them, during normal times.

Mr. Shahkarami

From my perspective, looking back at the 2007 earthquake in the KK area, and the years that I've been engaged with TEPCO, the plant is much safer today than it's ever been in the past.

We measured the safety of the plant by core damage frequency, and with all the safety measures put in place, the plant is definitely much safer today.

The second point is that TEPCO established a management model at the operating units and now they can implement that for KK7 startup. And, I was encouraged to see Mr. Ono taking advantage of that management model and establishing similar system for the decommissioning of 1F.

But, I think the biggest challenge TEPCO will be facing is that they need to continue improving on the human side, preventing human error, being able to provide more in-field oversight, taking ownership of all the maintenance activity in the field, and really be able to drive day-to-day, the management model and not allow anybody to deviate from that.

The Operations Division needs to be the leader of the station and ensure that all the equipment they need to safely and reliably operate the plant is in best shape that it can be.

Mr. Onishi

At Fukushima Daiichi the discharge of ALPS-treated water has begun, and at Kashiwazaki-Kariwa a category change has been made, so things are positive.

I became an outside director and a member of the Nuclear Reform Monitoring Committee in 2020. The year after, the atmosphere at Kashiwazaki-Kariwa pertaining to restart was very positive. However, since then various problems have occurred and the green light for go ahead has turned red. We have to be careful and realize that one large mistake can change the entire situation. It's important to maintain the improvements that Site Superintendent Inagaki has made. I would like to see upper management thoroughly balance positivity with sustainability and aim for stable operation of all power stations.

Mr. Kobayashi

Last year steady progress was made with both decommissioning and TEPCO's nuclear power business. The ocean discharge of ALPS-treated water, which is an important issue to address as the decommissioning of Fukushima Daiichi continues, has begun, and a category change has been made for Kashiwazaki-Kariwa thereby finally allowing TEPCO to reach the start line [for restart].

On the other hand, as Chairman Klein pointed out, worker contamination and leaks of water containing radioactive substances occurred at Fukushima Daiichi, and there was a drug testing error at Kashiwazaki-Kariwa. We must accept that these incidents have given the regional residents and society as a whole great cause for concern and distrust. TEPCO must reaffirm its commitment to the prioritization of safety, and work diligently together with contractors to eliminate human error.

After becoming Chairman of the Board, I have continued to visited the power stations and exchange opinions with site personnel, and I can tell you that many workers remain aware of gaining the trust of the local community and society when engaging in their daily duties.

At Kashiwazaki-Kariwa, in particular, many initiatives are underway under the leadership of GM Fukuda and Site Superintendent Inagaki, such as encouraging workers to greet one another, and the atmosphere at the power

station has dramatically improved. It is important to continue these types of seemingly “unimpressive” initiatives in order to gain the trust of local residents.

This year will be even more important than ever for TEPCO in terms of gaining trust. As the chairman of the Board of Directors, I will continue to work with upper management to engage in nuclear reforms as we aim to “thoroughly fulfill our responsibilities to Fukushima,” which is the most important mission of the TEPCO Group.

Greeting from the Nuclear Reform Special Task Force Director

Mr. Kobayakawa, Nuclear Reform Special Task Force Director

I would like to give my condolences to all those that lost their lives during the Noto Peninsula Earthquake that occurred on New Year’s Day, 2024. And, I would like to express my sympathy for all of those affected by the disaster.

To the members of the NRMC, on behalf of TEPCO, I thank you for your guidance.

We are approaching the 13th anniversary of the Fukushima Daiichi Nuclear Power Station Accident and I would like to once again touch upon the origin of TEPCO, which is “reflecting upon, and learning lessons from, the accident,” as well as TEPCO’s most important mission, which is, “fulfilling our responsibilities to Fukushima.” Although we need to be safely and steadily moving forward with the decommissioning of Fukushima Daiichi in order to complete this mission, we allowed body contamination of workers and also a leak of water containing radioactive substances from purification equipment. As a result of these incidents, we have given the people of Fukushima and society as a whole cause for great concern, which is a big problem for us. TEPCO, which manages Fukushima Daiichi, will thoroughly implement recurrence prevention measures and disseminate them to other sites.

It’s been more than one year since the NRMC met in September 2022. I would like to give a brief report on the progress of initiatives that have been implemented during this time.

Firstly, in August of last year we began the ocean discharge of ALPS-treated water, and we have completed the third discharge. We have seen no abnormalities in ocean monitoring data to date. Since the ocean discharge of ALPS-treated water will take many years, and in light of the troubles that have recently occurred, we will make sure that this operation goes smoothly. Additionally, we are conveying information, such as ocean monitoring results, etc., to parties in

Japan and overseas in an accurate and easy-to-understand manner so that we can prevent reputational damage and enable fishermen and regional residents to continue their livelihoods. Furthermore, in light of the harsh, high radiation environment, we are prioritizing safety over all else, and carefully moving forward with the trial retrieval of fuel debris.

On December 27 of last year, the Nuclear Regulation Authority decided to change the nuclear regulatory inspection category of Kashiwazaki-Kariwa from Category 4 to Category 1. During this time, each and every station worker has made daily efforts to behave in accordance with the basic policy/action policy for the cultivation of nuclear security culture. Additionally, through the issuance of condition reports about issues noticed on a daily basis and the effort to make improvements through corrective action programs, as well as indications from the Physical Protection Monitoring Office, etc., I feel like efforts to prevent reform initiatives from becoming temporary are steadily taking hold. However, this category change represents merely a start line, and we will continue to further improve safety and physical protection functions.

Furthermore, whereas the Noto Peninsula Earthquake that occurred on New Year's Day did not cause any trouble with equipment that would have an impact on the safety of Kashiwazaki-Kariwa, I once again felt the importance of correctly and quickly disseminating information in an easy-to-understand manner. Going forward, we shall implement countermeasures as necessary when we acquire new knowledge.

During my discussion with Chairman Klein at the end of last year we talked about the importance of the three P's. In other words, people, plant, and procedures. At this NRMC meeting today, we will give an update on the status of the three P's and ask for your guidance.

The trust and understanding of regional residents are indispensable for power station operation. In order to improve safety, which serves as the base for this, our ability to communicate and take action are vital. In order to strengthen these abilities, we are striving to "do our utmost from the perspective of the community," with strong determination to "be the proprietor of safety." We shall move forward with nuclear power reforms so that all TEPCO employees and contractors working at the power stations can say to regional residents with confidence that, "improvements are being made while prioritizing safety at the power stations that we work at, and they are safe."

I look forward to hearing your frank and honest opinions today.

Safety Minute

Managing Executive Director Inagaki

It is very important that we obtain the trust of the local communities, region, and society as a whole, and as such it is extremely important that we do nothing that comes as a surprise to local residents, regional residents, or society as a whole.

Looking back upon the incidents that occurred at Kashiwazaki-Kariwa over the last year, it's apparent that human error occurred as a result of a lack of communication between workers and TEPCO supervisors. And, there was also the leak of water containing radioactive substances at Fukushima Daiichi.

In order to ascertain the causes of these incidents it is important that we communicate with contractors and directly engage in dialogue with people working in the field.

Through this dialog we will identify what the problems are, what the concerns are, and implement countermeasures for them. And, we will thoroughly develop efforts to use "one voice" to convey to field workers and each and every TEPCO work foreperson using the same terminology and easy-to-understand language what these countermeasures are, the objectives, and why they are being implemented.

By conveying information in this manner to each individual, these individuals, most of which were born in the area, will in turn tell their friends and family that the, "power station has changed," and I will personally venture into the field to promote these initiatives.

Nuclear safety reform initiatives

Nuclear Reform Special Task Force Secretariat General Fukuda gave a report using [Document 1. The Status of Nuclear Safety Reform Initiatives.](#)

Chairman Klein

One of the difficulties we're learning about at Barakah in the United Arab Emirates with CAP programs is that they think that once you put a document into the CAP, that's the end of it. It's not just putting a program in a CAP that's important. You have to follow up on it. You've got some good programs and I think the safety culture that's been demonstrated by the activities that you've done both at 1F and at KK are positive. You can never become complacent.

Managing Executive Director Inagaki

You spoke about the problem they're having at Barakah in the United Arab Emirates, and we had the same problem with CAP when we started using it.

Now, when a condition report (CR) is issued through a CAP, the safety and security CAPs are reviewed by the PICO peer committee and the PIM committee to look for causes and countermeasures, after which an effectiveness assessment of the countermeasures is conducted. Recently, the Security Monitoring Office, and, in the case of safety, the Nuclear Safety Oversight Office, monitor the discussions, and the vitality of these discussions, that are being held during the midterm stages of the CAP, and conduct effectiveness assessment, so everyone is watching carefully to make sure that CAPs are completed appropriately. Upper management is also striving to ensure that this cycle continues for each and every incident that occurs.

Chairman Klein

The other point to keep in mind is you work both at 1F and at KK, things never go as perfectly as you hope. And, it's really important that you have a good communication program and that you communicate both internally and externally as soon as you can.

We know that's going to happen when you start up KK, there will be equipment that will not work as you expected. So, just make sure you maintain an active communication program, both internally and externally.

Mr. Kobayashi

"One voice" was mentioned earlier, but in the Nuclear Safety Reform Monitoring Results the expression, "one message, many voices" is used to explain the actions of many people to proactively convey a common message of power station safety and reliability, and make improvements through dialogue. What is the difference between these two expressions?

Managing Executive Director Inagaki

When we make a decision to do something or change something that affects our entire operation, we issue an easy-to-understand message that includes why we are doing it, or why we are making such changes, and the background and reasons for such action. We refer to this message as, "one voice." 80% of the

5,000 or 6,000 people that work at the power station live in the area, so when they use the same language to convey to their friends and family information about the power station, this results in, “many voices,” as I understand it. “One voice” refers to different people conveying a singular, easy-to-understand message, so there’s no big difference.

Mr. Onishi

Conveying a singular message in the form of “one voice” is an excellent idea from the perspective of the ease of understanding when you consider that 80% of the contractors are from the region. For the people seeking to obtain understanding, it is important that they strive for simplicity and ease of comprehension when deciding on what type of message is appropriate, and I’d like you to continue with this initiative.

Managing Executive Director Inagaki

I think one of the causes of recent human errors is a tendency to focus only on objectives and take a superficial approach to tasks at hand.

A large problem with “one voice” is that the reason for doing the work is not been conveyed; the workers are just being told to do it. Going forward, we’re going to put more energy into conveying to each and every contractor, and each and every person on the front lines in the field, the reason why such a task is being done.

Dr. Nishizawa

Having attended several meetings at the IAEA myself, I started to wonder whether risk communication is the right word for dialogue or not. The IAEA is shifting from risk communication to stakeholder engagement. One reason for this is that risk communication tends to be viewed as being one-way. But, stakeholder engagement means that you should invite them to participate, and as you engage in deeper dialogue, ask them what they really want to know.

TEPCO is going through a phase change and needs to gain more trust, so instead of risk communication, you should change the term to stakeholder engagement.

I attended the town hall meeting last month and noticed that regional residents are concerned about many things. If I were a local resident, I would like to know two things: Is KK safe and will it continue to be safe? And, if the worst-case

scenario occurred, would I really be able to evacuate safely? TEPCO is in the phase where it needs to obtain the trust of local residents and local governments, so my point is that you ought to explain risks and perspectives from your experiences in the past and not just focus on the safety of KK.

So, since you are in a new phase where the trust in people and the organization is more in question than facility and equipment reliability, instead of engaging in the conventional way of communicating, you might want to think about further expanding and developing new communication tools.

Mr. Shahkarami

There are a few programs at nuclear facilities that differentiate our industry with all other industries. And, one of the most important is corrective action programs. TEPCO has made progress utilizing CAPs, making sure everybody feels free to write the condition as they see it and let leadership engage. An aspect of corrective action programs that is important besides just what the problem is and what the cause is, is the extent of the cause and common cause analysis.

You're doing a good job with the operations training, giving a very diverse type of training. But, I still think they'll also need to have some leadership training. Operators demand that equipment be in pristine shape, so they decide how to operate the plant. They need to be the leader, not just the operator.

Managing Executive Director Inagaki

We plan to strengthen two-way communication, or actually, stakeholder engagement, as you mentioned.

Contractors are very well engaged in the security CAP and it's important to give feedback to security-related departments.

And, there is no mistake that leadership training is necessary. Equipment qualification (EQ) pertaining to the environmental-resistance and seismic-resistance of equipment when we enter operation mode, and configuration management (CM), are extremely important, and are being developed, so we will further advance these two areas while focusing on Unit 7.

Executive Vice President Ono give report using Document 2. Fukushima Daiichi Nuclear Power Station Decommissioning Initiatives

Chairman Klein

What's interesting is if you look back at the accident, the plant actually did very well with the earthquake. It was the tsunami that really caused the problems. This is an area that you have to continue just communicating about.

But, with the issues of the worker contamination and the water leak, the behavior of workers is always an issue, whether they're contractors or whether they're TEPCO employees. I think TEPCO is still behind the US in how it handles workers.

And, so TEPCO will have to have the technical competence to do the right kind of oversight that you determine is appropriate for your situation. And, look at how to train TEPCO people to both be technical and behavioral-oriented. You've got thousands of workers. You've got thousands of valves. There will be mistakes made. And, then you look at how can you do the oversight and then how can you communicate when adverse things happen.

Mr. Kobayashi

In regards to stakeholder engagement, you're using very accurate data on the treated water discharge and utilizing the Internet to quickly convey that data.

However, with the contamination incident and the leak of water containing radioactive substances, it's very difficult to figure out how to accurately and speedily convey what has happened to society, and to the media, amidst the absence of data. Up until now you've made announcements as soon as you have gotten the facts straight, but this makes you look slow off the mark. How are you planning to rectify this?

Executive Vice President Ono

When the body contamination happened, we announced the cause and countermeasures to the press, but it took about a month. We regret this very much. With the leak of water containing radioactive substances, we are conveying the information we have in a timely manner. We hope to be able to have another press conference this week.

Mr. Onishi

Both of these incidents might not have occurred if there was better field supervision by TEPCO employees. In addition to its own employees, TEPCO hires general contractors that at times outsource some of their work thereby resulting in secondary and tertiary contractors. When this happens, you can't avoid thorough training from becoming ever more indirect. I think you should examine how to revise supervision methods, including utilizing models from the United States where employees are always supervising the work that is being done, when there is a task that involves risk. However, it may be unrealistic for you to have employees supervising every task, so from the perspective of the frequency of risk manifestation, you should put together a supervision mechanism that makes a sharp distinction between important tasks that should be supervised by employees, and those that need not be.

Executive Vice President Ono

If there had been better supervision, I don't think we would've had the body contamination or the water leak. However, at Fukushima Daiichi there are hundreds of worksites. If we tried to get TEPCO employees, or even retired TEPCO employees, to directly supervise all of them, it would be impossible, so identifying important tasks is one way we can do it, and even identifying important parts of important tasks that should be supervised is another way.

Dr. Nishizawa

It's easy to describe one incident as a human error because behind human error there are many intricate elements that would lead to it. When looking at a case, it's always important to broaden your perspectives and analyze all the elements behind it, such as the environment it occurred in and organizational issues. In psychology there's a term, "attribution error," which means the blame is attached to a certain individual. In other words, "the mistake was made because it was so and so who was in charge." This makes it easy for errors to happen again.

Mr. Shahkarami

Every time you do an action, you have to go through the entire process to make sure you don't become complacent. In this example, I definitely see a sense of complacency that causes the issue. I would rather put these risks in categories. What's the public risk? What's the personal risk? What's the environmental risk?

What is the regulatory risk? And, decide what you want to do with it. These examples have low probability, but high consequences. So, you have to have a system to decide where you're going to put your resources.

Executive Vice President Ono

I think that you mean we should look carefully at what's behind the human error. We have our suspicions, so we will examine this.

In regards to risk categories, we will thoroughly brainstorm about this and improve our ability to deal with it.

NRMC review results

Secretary-General Arai give report using Document 3. Report on Interviews [with Workers] about Safety Culture etc.

Secretary-General Arai give report using Document 4. Results from the Monitoring of Nuclear Safety Reforms

◆ Meeting wrap-up

Chairman Klein

I do believe that we can make a lot of positive comments about safety culture. I would like you to think about how to maintain this and about the succession issue. Safety culture should be sustainable and not driven by certain individuals. So, you might think about how can you maintain these successes into the future. I've been a regulator, so I know how important safety culture is.

Impressions of the Nuclear Reform Special Task Force

Nuclear Reform Special Task Force Director Kobayakawa

I would like to once again thank the committee for the great amount of time it has spent giving us detailed and specific advice that is relevant to actual conditions in the field, and commenting on our initiatives and our approach to safety.

Chairman Klein rang the warning bell about allowing CAPs to be reduced to formalities. We will evolve these programs to prevent this. It's very important that these measures do not become temporary, and we have established a monitoring department under the direct supervision of the president.

I also think that succession plans, which were also pointed out by Chairman

Klein, are an extremely important topic to address. Today, I spoke about training designed to improve field management abilities, but ultimately, the creation of upper management succession plans, and the creation of role models that will help with such plans, are extremely important, so I'd like to get more advice from you in the future.

We received advice about the vital importance of communication in the wake of the human errors at Fukushima Daiichi and further engagement at Kashiwazaki-Kariwa. In regards to the relationship between the two expressions "one voice" and "one message, many voices," the reason why we started using the expression "one voice" is because various people would be saying various things and you would get confused about what you are doing. So, we deemed the comments made by field leaders about safety and quality to be of the most importance, and decided that we should give more weight to these messages and explain them better.

Dr. Nishizawa used the term "stakeholder engagement," and that's exactly what TEPCO is trying to do right now. We're using "one voice" messages to gain empathy based on accurate facts. The expressions may differ, but the objectives are the same, and we would like to continue to get your advice.

Chairman Klein stated that he thinks TEPCO is behind the United States when it comes to in-house work and worker behavior. This is an issue that we certainly need to address, and at Fukushima Daiichi, in particular, we spent 13 years putting out fires, so we have various experts in various fields and we really need to reorganize departments and strengthen governance.

Thank you very much for today. I look forward to gaining more of your wisdom and advice in the future.

Resignation announcement by Mr. Shahkarami

Mr. Shahkarami

It's a privilege to have been given this opportunity. I have engaged with many individuals over the years. I'm so happy to have been able to see the development of the TEPCO Management Model and see it applied to manage the construction, and operation of nuclear facilities. I have enjoyed learning as well and think I have contributed over the years.

So, thank you so much and I wish you all lots of success ahead.

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