

## **SUMMARY OF THE PROCEEDINGS OF THE 11<sup>th</sup> NUCLEAR REFORM MONITORING COMMITTEE MEETING, SEPTEMBER 2, 2016**

**Venue:** TEPCO Headquarters 10F West Side Conference Room

### **Participants:**

- Dr. Dale Klein (Chairman)
- Lady Barbara Judge (Deputy Chairman)
- Masafumi Sakurai (Member of the Committee)
- Fumio Sudo (TEPCO Chairman, Member of the Committee)
- Naomi Hirose (TEPCO President and CEO, Chief of the Nuclear Reform Special Task Force)
- Takafumi Anegawa (Managing Executive Officer, Secretary General of the Nuclear Reform Special Task Force)
- Naohiro Masuda (Managing Executive Officer, President of Fukushima Daiichi D & D Engineering Company)
- Dr. John Crofts (Managing Executive Officer, Head of Nuclear Safety Oversight Office)
- Chisa Enomoto (Corporate Officer, Head of Social Communication Office)
- Kazuhiro Suzuki (Secretary-General)

### **Chairman's Opening Remarks**

Dr. Klein noted that it is very important in the Nuclear Reform Monitoring Committee to review self-assessment on nuclear safety reform of TEPCO. In November last year, the Committee visited Kashiwazaki-Kariwa Nuclear Power Station (KK) and checked response to the cable layout issue. The cable layout issue itself should not have happened, but TEPCO discovered, disclosed and handled the problem on its own. This is an important element of safety culture.

In March this year, the Committee visited Fukushima Daiichi Nuclear Power Station (1F) and checked that the work environment was improved and that there were many supervisors of TEPCO in the field. The Committee also noted that decontamination advanced, as a press interview could be held in close proximity of the power station buildings without wearing protective gear.

Dr. Klein said the Committee would like to learn where TEPCO thinks gaps exist based on the result of the self-assessment, and what kind of plans TEPCO is developing to close such gaps. He said the Committee would like to conduct a review of the self-assessment with assistance from Mr. Randall Edington of Arizona Public Service.

### **Comments from Committee Members**

Lady Judge said TEPCO should be praised for voluntarily conducting self-assessments. The first step to self-improvement is recognizing the situation, and self-assessment helps to reach world-class safety level. Safety is a "journey" and we are still in the middle of it.

She noted that the Nuclear Safety Oversight Office (NSOO) plays an important role as it directly reports to not only executives under the president but also the Board of Directors. The NSOO adopts international principles and contributes to raising the level of nuclear safety of TEPCO. At 1F, there has been large advancement in management of radiation dose and improvement of work environment. She said the Committee will continue to monitor what kind of effects activities of the NSOO have in the field and on management of TEPCO as a whole.

Mr. Sakurai said the self-assessment of TEPCO will be thoroughly reviewed by the committee. In the review, the Committee would like to examine not only “things that are reported” in the self-assessment but also “things that are not reported.” In regard to the notification and reporting problem concerning the accident at Fukushima Daiichi Nuclear Power Station, indications and suggestions were made by the third-party verification committee and TEPCO announced “reflection and pledge” in response.

Mr. Sakurai noted that there are some points in common with the findings of the third-party verification committee. First is the management issue, that TEPCO tends not to fully implement decisions and that what has been decided is not thoroughly disseminated throughout the organization. Second is that it is necessary for the site superintendent to have authority of judgment including notification and reporting, and there should be a structure where such authority can be executed, as protecting the lives, health and assets of local residents is the greatest responsibility of a nuclear operator. In the review of the Committee, indications of the third-party verification committee and implementation status of “reflection and pledge” of TEPCO will be checked. The Committee would like TEPCO to organize materials related to the Committee’s review of self-assessment and give assistance in the review activities such as interviewing persons concerned.

Mr. Sudo first spoke from the position as Chairman of TEPCO. In the General Meeting of Shareholders on June 28, he declared as the chairperson that an electric power company with nuclear power generation business must respond to an abnormality at the power station with priority on safety of the local community, and instruction concerning core melt issue of the president at the time of the accident was concealment and it was an act of betrayal toward stakeholders. In the Board of Directors meeting that was held after the General Meeting of Shareholders on the same day, it was confirmed once again by executives to place priority on safety of the local community in any case.

Mr. Sudo said that in the “Management Policy in a Drastically Changing Environment” which was announced on July 28, TEPCO promised three points in regard to enhancement of safety measures based on the experience of Fukushima, as response to the Fukushima nuclear accident will continue to be the initial point for the existence of the company.

The first point is to have management take the initiative to keep safety awareness. Top management is to continue efforts to increase sensitivity and judgment necessary

for becoming aware of risks and sharing them with all. The second point is to base safety measures on examination and summary of the Fukushima nuclear accident and ministerial meeting decision on nuclear power of March 11 "Approach to Developing Nuclear Disaster Countermeasures." The third point is to develop a proactive alliance structure in order to collect technology and human resources that are dispersed outside the company, from the standpoint of improving both nuclear safety and productivity through both hard and soft measures. These three points are in common with the Nuclear Safety Reform Plan, and aim to be a "nuclear operator who continues to make efforts to create unprecedented safety." He hoped to have constructive discussions for executives to draw closer to this aspect TEPCO aims for, with opinions from Chairman Dr. Klein, Deputy Chairman Lady Judge, and Mr. Sakurai.

### **Comment from the Chief of Nuclear Reform Special Taskforce**

Mr. Hirose said he is aware that self-assessment is an important process. Findings are made in the process of self-assessment, accompanied by a process of reflection on the measures necessary and on redoing things. In this meeting, he would like to ask for the Committee's opinions on the self-assessment of TEPCO and engage in discussions so as to improve the self-assessment.

TEPCO will provide support for materials and interviews necessary for the review of the self-assessment. He would like to ask the committee to examine how the self-assessment was conducted, and whether its approach was in some way wrong or insufficient, but he thinks it is important to clarify what is lacking and what must be implemented, instead of making the self-assessment process itself the purpose. "Safety" is a never-ending journey, and TEPCO will continue with self-assessment.

### **Progress on the Nuclear Safety Reform Plan**

Progress in implementing the Nuclear Safety Reform Plan, and the results of the self-assessment were reported by Secretary General of Nuclear Reform Special Task Force Anegawa. Supplementary reports were given by President of Fukushima Daiichi D & D Engineering Company Masuda, Chief of Nuclear Safety Oversight and head of NSOO Dr. Crofts, and head of Social Communication Office Enomoto.

### **Safety Awareness**

Lady Judge asked if measures are being taken to improve level of safety awareness of contractors.

Mr. Masuda responded that there are 6,000 people including contractors working at 1F, and it is acknowledged that improvement of safety awareness of contractors is extremely important. Safety management guidance sessions and patrols are conducted in the field together with contractors, led by 1F site superintendent Uchida, thereby improving safety awareness. Arrival education is conducted for all workers, and contractors are asked to raise safety awareness of workers with responsibility.

Mr. Anegawa noted that in view of the cable layout issue at KK, contractors and executives exchanged opinions on relation between errors in the design and construction and the deterioration of safety awareness, and measures were also implemented by contractors.

Mr. Sakurai said, in regard to the cable layout issue, he believes that it is not thoroughly understood within TEPCO and by contractors why it is important. In education and guidance of contractors, it is important to make contractors recognize implications of work they are to conduct.

Mr. Anegawa noted that in the US, systematic education for acquiring basic items of design and construction work skills is advanced and developed. TEPCO intends to adopt such education system so that understanding of work is developed from fundamentals.

Mr. Sudo noted that in nuclear power, capabilities to be possessed by each position including TEPCO and contractors should be checked before assuming the position.

### **Rotation and Training of Personnel**

Lady Judge noted that there seems three year rotation of employees at TEPCO. Isn't it necessary, she said, to have a system in the Nuclear Power Division where good workers are assigned to the same job for a certain period of time after they are identified and trained?

Mr. Anegawa responded that the mission of the Nuclear Human Resource Training Center states to clarify capabilities to be possessed by each position. It has been pointed out by overseas Management Model Project Team that work in TEPCO does not have fundamentals and those requirements need to be further developed in detail. This needs to be immediately addressed. Personnel rotation issue has also been pointed out by the Head of NSOO Dr. Crofts. Since plant manufacturers and contractors had been depended on, workers were easily transferred, but in order for TEPCO employees to carry out all work with responsibility and skills, it must be strictly managed whether successors satisfy the necessary requirements and must be trained. Preparations are currently being made for this. Safety awareness of the nuclear leader is individually evaluated as PI (Performance Indicator), and it will be examined whether it is appropriate PI.

Dr. Klein noted that at U.S. Nuclear Regulatory Commission (NRC), review of training programs was outsourced to the Institute of Nuclear Power Operations (INPO). He asked who it is reviewed by at TEPCO.

Mr. Anegawa responded that only training of operators is reviewed by a third party. Skills of individuals and teams can be measured using the method at the BWR training center, and it can be compared with domestic nuclear operators to see our position. Although advice is received from overseas experts, no comparison is made with overseas operators. We would like to set evaluation metrics based on World

Association of Nuclear Operators (WANO) and INPO and think about how to develop indicators.

Dr. Klein noted that from past experience, there is importance in what kind of training operators as well as maintenance personnel receive and what kind of abilities they have.

### **Technical Capacity**

For items that were evaluated "Self-regulatory and continuous reforms need to be accelerated" in the self-assessment, Dr. Klein asked TEPCO leaders to explain how it is planned to close the gap between the vision and reality, and what kind of indicators will be used for measurement.

Mr. Anegawa responded that for technical matters, necessary requirements will be clarified and any change in number of personnel who satisfied the requirements will be grasped. In regard to management and governance, in order to quantify skills and performance, how much feedback in Management Observation lead to improvement is currently set as the indicator. According to the Management Model Project Team, there are managers who exclusively observe PI in the U.S. and indicators are developed including development of quantitative evaluation.

Dr. Klein asked whether, for education and training, it is recommended to learn the method of INPO. He asked if there are employees who are dispatched to INPO.

Mr. Anegawa responded that as there will be no dispatch to INPO in the future, TEPCO would like to directly learn and adopt best practices from overseas operators.

### **Timely Disclosure and the Ability to promote Dialogue**

Dr. Klein referred to the findings of the independent committee regarding timing of the disclosure of a "meltdown" during the March 2011 accident at Fukushima Daiichi. He noted that at NRC, the word "reactor core damage" is used. The word "meltdown" is vague and is not used. In the Three Mile Island (TMI) accident, it was predicted that the core was damaged, but it was unknown whether it had melted until samples of debris were collected.

Lady Judge said it is not recommended to stick to the word "meltdown" in explanations. It is important to explain what happened and what kind of measures will be implemented using not only data and numbers but also easy-to-understand words.

Turning to overall communications, Dr. Klein noted there is room for improvement. It is important to explain things to the general public in an easy-to-understand manner. For example, it is necessary to explain radiation dose level in comparison with a chest X-ray and an airplane flight so that it is intuitively understood. The world's attention is on TEPCO, he noted, and in order to regain trust from the local community, people in

Japan and people from overseas, easy-to-understand communication is necessary.

Lady Judge observed that as the 2020 Olympic and Paralympic Games will be held in Tokyo, it is conceivable that Fukushima will also gather attention.

Dr. Klein said it is necessary to consolidate the system of communication, and Ms. Enomoto responded that it will be considered.

Mr. Sakurai said that communication that understands the senses of foreign nationals is also important.

### **Concluding Remarks**

Dr. Klein noted that at 1F, the Committee saw progress in efforts made for technically difficult problems of removal of spent fuel at Unit 3 and removal of the cover at Unit 1. TEPCO must not become complacent. The Committee wants TEPCO to continue communication and safely advance work.

Mr. Hirose said TEPCO will ask the Committee continue to review the self-assessments. During that time, TEPCO will continue to make improvements so that he can give a better report next time.