

**Summary of the Eighth Meeting of the Nuclear Reform Monitoring
Committee,
30 March 2015**

Location: TEPCO Headquarters 10F West Side Conference Room

Participants: Dr. Dale Klein (Chairman)

Lady Barbara Judge CBE (Deputy Chairman)

Masafumi Sakurai (Member of the Committee)

Fumio Sudo (TEPCO Chairman, Member of the Committee)

Kazuhiro Suzuki (Secretary General)

Naomi Hirose (TEPCO President and CEO, and Chief of the Nuclear Reform Special Task Force)

Takafumi Anegawa (Managing Executive Officer, Secretary-General of the Nuclear Reform Special Task Force)

Naohiro Masuda (Chief Decommissioning Officer, President of Fukushima Daiichi D&D Engineering Company (FDEC) , Managing Executive Officer)

Shotaro Okawara (Managing Executive Officer)

Dr. John Crofts (Head of Nuclear Safety Oversight Office)

Ms. Chisa Enomoto (Head of Social Communication (SC) Office, Executive Officer)

Opening Remarks by the Chairman:

Dr. Klein noted that two issues had arisen since the Committee's previous meeting, the fatalities at 1F and 2F and the serious injury, and also a lack of disclosure for K Drainage. Safety culture has been a major Committee focus, he said, but TEPCO also needs to work on its communication culture.

Nuclear energy requires transparency and trust, he continued. So there has been concern on K Drainage that TEPCO was going back to their old ways. As the Nuclear Reform Monitoring Committee has stated for a long time, and certainly Mr. Sakurai has been a voice in this area, communication is very important.

TEPCO formed the Social Communication Office and clearly there was failure to communicate this recent issue, Dr. Klein said. It's important for the public to

realize that K Drainage issue was not a safety or a security issue, but was a communication issue.

In the nuclear industry, communication failure can have as many consequences as equipment failure, he noted.

The Committee looks forward to hearing about the progress that has been made, Dr. Klein said, and that it will continue to focus on the success of both TEPCO and the country of Japan.

Remarks of the Members of the Committee

Lady Judge:

There have been some successes as well as things we could all do better, Lady Judge said. She said she would like to compliment the Nuclear Safety Oversight Office, which has been working very hard to help TEPCO to instill very high safety culture at the sites. There has been progress on safety culture, but much more needs to come, she said, and the Committee commends the people who have worked so hard to help that safety culture begin to be instilled.

Mr. Sakurai:

Awareness of safety culture has been instilled enough at TEPCO. In the area of risk communication, the company has established the Social Communication (SC) Office, and is inviting the participation of outside experts, ensuring that the Office is gradually coming to fulfill its functions, Mr. Sakurai said.

He noted, however, that two issues have arisen: First, two deaths and a serious injury, and second, the delay in releasing data concerning rainwater in the K Drainage gutter.

Given that two years had passed since the formulation of the Nuclear Safety Reform Plan, he said he had felt that it was necessary for the Nuclear Reform Monitoring Committee to conduct the check procedure of the PDCA (Plan-Do-Check-Action) cycle. He said it is also necessary for the Committee to fulfill the role of implementing a check in the case of these two incidents. An Information Disclosure Subcommittee has been established (of which Mr. Sakurai is the Chief Investigator), and at present we are investigating and examining the issue of disclosure of information regarding the K Drainage gutter. To date, the Subcommittee has checked TEPCO internal survey results and a variety of TEPCO documents, conducted interviews with relevant personnel, and

inspected 1F, he noted.

Mr. Sakurai noted that he would discuss some of the Subcommittee's findings thus far at the NRMC meeting. It will also be necessary in future to examine the measures for improvement that have been announced by TEPCO. He said he wants the Information Disclosure Subcommittee to go beyond the remit suggested by its name and to fulfill the PDCA check role by investigating a wide variety of issues.

Mr. Sudo:

Chairman Sudo noted that he spoke as a representative of TEPCO's Board of Directors. Regarding the occurrence of the recent work accidents and the issue of disclosure of information regarding the K Drainage gutter, the Board of Directors has reports concerning the facts from the supervisory personnel concerned, and has issued instructions to those supervisory personnel to implement measures to reassure the residents of the region and the public more broadly. The Nuclear Reform Monitoring Committee, the advisory body for the Board of Directors, has established the Information Disclosure Subcommittee under Mr. Sakurai, and it has commenced its investigations.

Given this, the Chairman said, the Board of Directors has decided on three guidelines:

First, TEPCO will create a dedicated executive position to enhance management of nuclear safety, with information disclosure as a prerequisite.

Second, based on the Board's recognition that it is essential to transform the company's orientation regarding information disclosure, we will publish all of the radiation data measured by TEPCO at 1F. As necessary, TEPCO will make improvements to operating procedures, etc., while being monitored and evaluated by the Nuclear Reform Monitoring Committee, the Information Disclosure Subcommittee, and other external entities.

Third, TEPCO will receive opinions from residents of the region concerning our handling of and responses to radiation data, and constantly seek to increase our transparency and trustworthiness. Striving to win back the trust of the public as rapidly as possible, the Board of Directors will spare no efforts in periodically monitoring the activities of personnel responsible for ensuring that no fatal accidents occur again, and personnel who are in the public eye, responsible for information disclosure, Chairman Sudo said.

Remarks of the Chief of the TEPCO Nuclear Reform Special Task Force, President Hirose:

The completion of the removal of spent fuel from Reactor No. 4 at the end of the year was extremely good news, President Hirose reported. He said TEPCO has also been able to implement a variety of initiatives to make improvements to the working environment. From the date of the meeting, he said, 3,000 meals per day will be sent to 1F from TEPCO's Kitchen Center, ensuring that workers on the site are able to enjoy hot meals.

While there has been some progress, the company also had severe accidents resulting in fatalities in January, in addition to the K drainage issue, he noted. These incidents that have caused serious concern to the entire public must be a cause of deep reflection on the part of TEPCO, he said.

President Hirose noted that he would share with the Committee the measures formulated in response to the work accidents and the information disclosure issue by the supervisory personnel responsible, and hear your opinions. He said he would also like to discuss methods of monitoring and evaluating how the measures are being implemented.

Safety Minutes

Task Force Secretary-General Anegawa discussed realizations regarding safety with other company's case.

Fundamental causes of the serious accidents at the reactor facilities and accident prevention measures

Task Force Secretary-General Anegawa reported on the fundamental causes of the serious accidents at the reactor facilities and accident prevention measures, and the Committee discussed these issues.

In an answer to a question from Dr. Klein on how subordinates can be encouraged to enforce safety rules with their superiors – something essential in a well-functioning safety culture – Mr. Anegawa offered an example. He said TEPCO has implemented measures to thoroughly inculcate the rule formulated by a company that employees must hold the handrail when going down the stairs since the recent accidents. Not only does this increase employees' safety awareness, he said, but it also fosters the awareness that if you don't warn

someone about dangerous behavior and they have an accident, you are responsible for the accident.

Warning people about their behavior is a job that takes energy, and it is that much more difficult to do when the person is a supervisor or a higher-ranking employee, he acknowledged. While we can't really say that we have made great progress yet, we have commenced initiatives to address this issue, he said.

Chairman Sudo said it is top management who must consider how to overcome this situation. He said he would like top management to consider how best to naturally dialogue and hold discussions with personnel from the companies who are cooperating with us on the sites. If natural dialogue and discussion are possible, he said, it will become easier for people to raise their voices, and the resistance to warning others will also diminish.

Mr. Sakurai noted that the personnel who were killed and injured in recent accidents were not members of TEPCO staff, but employees of contractors. Generally, he said, it is sufficient for the contractor to implement safety measures based on the contract. However, the situation is entirely different at TEPCO. TEPCO communicates its intentions and the nature of its initiatives with regard to safety measures to the top officials of each of its contractors, Mr. Sakurai said, and it is extremely important for those companies to then put their own safety measures into effect.

Chief Decommissioning Officer Masuda said that it is necessary for the main contractors at the sites to see these accidents as their own responsibility. It is important for TEPCO to provide a safe working environment, and having experienced a series of fatal accidents and serious incidents, the company has made changes to the working environment.

In order to foster a sense of responsibility, he said, each of the companies working at the sites hold in-house discussions concerning operational safety, and report back to TEPCO. Mr. Masuda said he checks all of these reports, and comments on any points that attract his attention.

In order to improve the working environment, every week the directors and other executives of companies working at 1F and of 1F itself inspect the site, he noted.

Mr. Sudo noted that every day, 7,000 people are at work on the 1F site. Because

around 10 workers are performing each task, TEPCO needs one supervisor for every 10 people. For 7,000 workers, about 700 supervisors are necessary.

At 1F, we only have 200 people able to supervise work operations, he said, and that based on his own experience, it is difficult to instruct and supervise 7,000 workers with 200 people. Taking this difficulty into consideration, he said, TEPCO needs to ask for cooperation from the main contractors. Over the past few years, he said, the number of work-related accidents has also increased among the general contractors working on the site. Working together to solve the problem of accidents occurring at 1F will also represent a new step for the contractors, he said.

Status of investigation into the failure to disclose information on drainage K at Fukushima Daiichi

Mr. Sakurai presented a report concerning the status of investigations regarding the issue raised by recent disclosure related water drainage by the Disclosure Subcommittee, and Mr. Okawara reported on the results of reviews on the issue of information disclosure. The Committee discussed these reports.

Dr. Klein noted the company's pledge that all radiation data is going to be disclosed. He urged caution, emphasizing the importance of providing information in context, and cautioning "if you just provide so much data, people will be overwhelmed." He said this will also be a burden on TEPCO staff to report all the data. It's very important that you follow through with the stakeholders, he said, so they understand what the data means.

President Hirose expressed the concern that the new disclosure policy will require a considerable amount of work. Nevertheless, he said TEPCO is looking towards publishing as much data as possible when it has prepared the essential resources and established the necessary mechanisms.

Dr. Klein asked whether risk communicators attend to the meetings of Fukushima Daiichi D&D Engineering Company, and Mr. Masuda noted that the D&D Company has not always been able to ensure the attendance of risk communicators and representatives of the Social Communication Office at its meetings. He noted that risk communicators are always invited to attend meetings at which decisions are made. At meetings he has chaired, he has

requested opinions from the risk communicators and given them the opportunity to say what they think, Mr. Masuda said.

Lady Judge asked what kind of training risk communicators have, and whether they have engineering or communications backgrounds. She noted that in order to make the general public understand what problems or procedures are being taken at 1F and KK, it is necessary to take special communication training to the risk communicators. She said it is also necessary to have one person at the site who is trained in communication and who can understand the data, so that TEPCO can publish the data as information with context.

Ms. Enomoto responded, saying all risk communicators have experience as nuclear engineers. During communication training, she said, SC explained what was required of them in providing explanations to local residents and at press conferences. In the future, she said, the Social Communication Office wants to enhance the training using case studies.

Mr. Sudo said he would like to see the establishment of a mechanism by means of which risk communicators could be evaluated in terms of questions such as what type of comments they make when they attend meetings, how they report back to the Social Communication Office, and how much effective information they provide, and which would enable their skill level to be improved.

President Hirose observed that the fact that all the risk communicators have experience as nuclear engineers is very good news. At the same time, he said, these people have worked together with other nuclear engineers up to the present, and now they are returning and working together with them again. He said he recognizes that it would be difficult to offer frank opinions at a meeting to someone who was originally your colleague or superior. It will be necessary for the executives of the nuclear power division to call on the risk communicators themselves and the people around them to create an environment in which they are able to offer honest opinions.

Lady Judge said President Hirose had made a very important point, which is that being risk communicator is not a career and it's only a job. She said TEPCO should have at 1F someone whose career is being a communication person,

someone senior to whom the risk communicators could speak and could explain engineering problems. TEPCO should have a single point of communication at 1F whose job is to talk to the people, the stakeholders, and press, she said.

This person would see communication as a career, and he is fully be able to speak up, and not worry about the facts that they may go back to line managers. Lady Judge said TEPCO should consider that now because it has had all these problems in translating engineering speak into communication speak.

Dr. Klein noted that the cleanup at 1F will take long enough for people to have full careers as communicators. He said TEPCO needs engineers in the Social Communication Office as well as people who are trained to be communicators.

President Hirose responded by saying that the company will consider career path and set up something as system so that people not only by themselves but people watching them can understand it's not just a job.

Mr. Sudo said he would like the company to focus not just on risk communicators, but also raise the skill level of its general communicators. It will be necessary for the Social Communication Office to indicate examples of good procedure and bad procedure at appropriate times in order to improve in-house communication, he said.

Mr. Sakurai said his subcommittee will not only look into problems related to communication with the public, but also problems in mechanisms for communication within the company.

President Hirose noted that as in the case of a safety culture, there is no end to the oversight management needs to apply to this issue. He requested the Nuclear Reform Monitoring Committee to continue to monitor the situation and provide instruction in this area.

Fukushima Daiichi Superintendent Ono said he does not believe it is essential that risk communicators should have experience as nuclear engineers. Matters that require a decision have been decided by the Deputy Director of the Social Communication Office, who has no experience as a nuclear engineer, he noted. The main thing is not whether the person has experience as an engineer, but

their personal qualities, he said. A good engineer may not necessarily be a good communicator, he said, and TEPCO needs to select personnel who display qualifications as communicators, irrespective of whether they have engineering experience.

Progress of the Nuclear Safety Reform Plan

Mr. Anegawa, Secretary-General of the Nuclear Reform Special Task Force, reviewed two years of implementation of the Nuclear Safety Reform Plan and discussed measures to ensure that a nuclear safety culture takes root in the company; Dr. Crofts, Head of the Nuclear Safety Oversight Office, explained the initiatives implemented by his Office; Mr. Masuda, President of Fukushima Daiichi D&D Engineering Company, reported on improvements to the working environment at 1F. A Committee discussion followed.

Dr. Klein encouraged more communication about all the things that TEPCO has done to make the workers conditions better, noting an impressive set of activities and data.

Mr. Sakurai noted that he observed disaster prevention training at Headquarters and KK. Significant progress has been made since the previous time, he said. In addition to improvement to the training itself, he said, but he added that he would also like to see the outcomes of the training used in everyday systems, equipment and facilities, as well as training that brings in relevant external organizations.

Closing Proceedings

Dr. Klein thanked management for a thorough briefing, noting both positives and areas for improvement. He noted that water would remain a long-term issue at 1F, and advised benchmarking communications against global leaders, not just other Japanese companies, and he also encouraged President Hirose to make presentations on the situation of Fukushima Daiichi in the U.S.

Lady Judge also noted that there have many good things, others not so good, and that there have been many lessons and many efforts and improvements. She expressed particular thanks for the hard work of people at 1F who are often

criticized and not always praised.

She noted that it's important for people's morale that members of the Committee say how well they are doing when they do it. Otherwise, she said, they may only hear the criticism. She congratulated Dr. Crofts on his accomplishments in setting up the Nuclear Safety Oversight Office (where he was advising the Board), and wished him well in his new management position.

Mr. Sakurai observed that this Eighth Meeting of the Nuclear Reform Monitoring Committee has been the most substantial. He expressed hope that the measures discussed at the meeting will move to implementation. The Information Disclosure Subcommittee will continue to probe deeply and offer its opinions, he said.

He also reported that the National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission, which visited 1F in December 2011, also visited the site last week. The working environment had significantly improved, with new facilities including an office wing and a canteen.

Mr. Sudo noted that while the safety situation is not perfect, that does not mean that things are not proceeding well. We can say that things are working well at 80 or 90%, he said, but he added that the remaining 10 or 20% that is not going well is occasionally thrown into relief, resulting in disappointment and dampening of the driving force carrying us forward. The danger is that TEPCO will become overly proud of the 80 or 90% that is perfect, he said.

When the news regarding the K Drainage gutter came out, he said he was glad to receive extremely frank and truthful comments from Dr. Klein, Lady Judge and Mr. Sakurai, and to be able to exchange opinions via email and telephone conferencing. He said that he communicated their thinking directly to President Hirose and other executives, and that they responded sincerely.

He acknowledged that there were "stinging comments" at the Committee meeting regarding TEPCO's communication initiatives, but that there have also been a number of points that have been applauded, such as improvements to the working environment.

President Hirose said TEPCO will establish systems and allocate resources for the implementation of the directions and suggestions that management has received in relation to the initiatives towards the future that were discussed in the

Committee's meeting. Entities including the Nuclear Safety Oversight Office and the Disclosure Subcommittee will continue to check initiatives and offer advice, he said. Based on this advice, TEPCO will make further improvements to operational safety, communication, and the working environment.