

Q4 Progress

Keeping the Fukushima Nuclear Accident firmly in mind: Be safer today than yesterday, and safer tomorrow than today.

- To live up to our resolution (above), we are continuing to promote nuclear safety reforms, steadily moving forward with decommissioning and conducting activities to raise our power stations to the world's highest levels of safety.

Remembering regrets and lessons learned from the Fukushima Nuclear Accident

Management communicates with employees about sharing the regrets and lessons learned from the Fukushima Nuclear Accident. Also, all TEPCO companies engage in retrospection activities, such as group discussions in each department. On March 11, the president, along with Fukushima Revitalization Headquarters President Okura, addressed employees at Fukushima Daiichi.

Progress at Units 2 & 3

- At Fukushima Daiichi, an inspection of the Unit 2 primary containment vessel included using a device to touch deposits as part of preparing for fuel debris removal.
- At Unit 3, a fuel-handling machine was used to start fuel removal on April 15, following training in fuel and rubble removal.

Drills on information sharing and responding to fires

- At Fukushima Daiichi, emergency response training was held in accordance with the Emergency Response Improvement Plan. The activities confirmed that improvements have been made regarding sharing information with the Nuclear Regulation Authority, which had been identified as an urgent issue.
- At Kashiwazaki-Kariwa, joint firefighting training with the Kashiwazaki fire department was conducted in light of the cable tunnel fire that occurred on November 1.

Announcement of Aomori Action Plan

- To steadily move forward with these projects and contribute to the society, we announced our Aomori Action Plan with the theme "Create, Nurture and Continue Moving Forward."

Initiatives to share the regrets and lessons learned from the Fukushima Nuclear Accident

On this eighth anniversary of 3.11, we decided that this fiscal year's motto should be "Evolution based on acknowledged mistakes and lessons learned." Management has been sending out messages in this regard, and all TEPCO companies have engaged in retrospection activities, such as group discussions in each department. On March 11, all employees observed a moment of silence at the same time that the earthquake occurred, followed by the president and Fukushima Revitalization Headquarters President Okura addressing all employees at Fukushima Daiichi. During group discussions held in each department, action statements based on our regrets and learnings were created and shared throughout the Group.

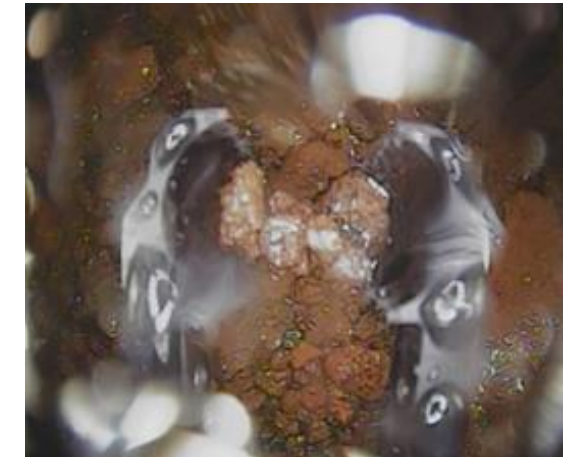


President addressing employees
(Fukushima Daiichi)

Fukushima Daiichi NPS Progress of reactor decommissioning

Inspection of Unit 2 primary containment vessel conducted to touch deposits

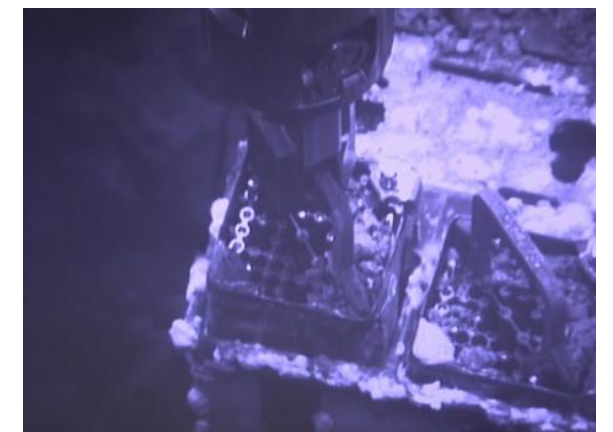
On February 13, an inspection was conducted to intentionally touch deposits found inside the containment vessel and ascertain their nature (hardness, brittleness, etc.). It was found that pebble-like deposits could be grasped and moved, but some hard stone-like deposits may not be able to be grasped. Maneuvering the inspection device close to these deposits enabled us to obtain video and gather dose level and temperature data for estimating the shapes and sizes of deposits. The results will be considered when discussing inspections to be conducted in the second half of FY2019 and methods for removing the deposits.



Test to touch deposits

Removing fuel from Unit 3 spent fuel pool

Testing of the Unit 3 fuel-handling machine led to a number of nonconformance issues. In response, safety inspections were implemented to identify problems and upgrade quality management. Cables were repaired and then tested before completing the process on February 8. Beginning on February 14, procedures for making repairs in the event of any nonconformance were examined and fuel-removal training using simulated fuel and transport containers commenced. Training in removing rubble inside the spent fuel pool was conducted and then fuel removal commenced on April 15.



Unit 3 fuel removal work **TEPCO**

Nuclear Safety Reform Plan FY2018Q4 Progress Report Overview

Fukushima Daini Progress of safety measures

Emergency response training based on Emergency Response Improvement Plan

Countermeasures put forth in the Emergency Response Improvement Plan (announced on August 27), which was compiled to address issues identified during previous training sessions, were further developed during emergency response training at Fukushima Daini. During general training on February 5, experienced teams that have received training showed improvement in regards to sharing information with the Nuclear Regulation Authority, which had been identified as an urgent issue. Going forward, we will seek to improve our ability to respond to emergencies and improve the skills of personnel who are not members of experienced teams.



Emergency Response Center

Kashiwazaki-Kariwa NPS Progress of safety measures

Joint training with Kashiwazaki fire department

In light of the fire that occurred in an on-site cable tunnel on November 1, we have periodically conducted joint firefighting training with the Kashiwazaki fire department. During joint training on March 6, a scenario similar to the November 1 event was staged in the same tunnel. The exercise confirmed that information was shared appropriately even though the location of the fire differed from the location of accumulated smoke, which was an issue in the last fire. The fire department reported that they were provided with a good explanation of the field conditions as they made their way to the fire, indicating that problems related to handling fires have been resolved.



Joint firefighting training (March 6)

Aomori Action Plan announced to enhance presence in Aomori Prefecture

To steadily move forward with projects and contribute to our communities, we announced our Aomori Action Plan with the theme "Create, Nurture and Continue Moving Forward" (March 28). The Aomori Action Plan puts forth six basic guidelines, including for safety, that TEPCO shall follow as it conducts its business. Also, various initiatives based upon these basic guidelines shall be introduced. In addition, we will establish an Aomori Office during the first half of FY2019. Besides strengthening our fiduciary relationship with the region, we shall work to improve how we conduct business by taking the perspective of the local community.



Press conference at the Higashi Dori worksite

Nuclear Safety Reform Plan Progress Report

Nuclear Safety Reform Plan Progress Report (Management)

- During the fourth quarter we reexamined our efforts to strengthen human resource training improve communication, based on which we presented a report to the Nuclear Reform Monitoring Committee. After the Committee provides its feedback, an action plan aimed at making improvements in these areas shall be compiled.
- To improve communication, we aim to transition from simply conveying information to providing information that is easily understood. We are holding group discussions on this topic, hosting seminars by external instructors and examining case studies. In addition, each power station is engaging in Kaizen activities to improve their internal and external communication.
- To strengthen human resource training, we are providing emergency response personnel with training on behavior during accidents and related response procedures.



Nuclear Safety Reform Plan Progress Report

Assessment of key issues

- We have assessed the progress of our Nuclear Safety Reform Plan, which was launched in FY2016 to address five key issues needs in response to problems identified by the Nuclear Reform Monitoring Committee: strengthening governance, strengthening human resource training, improving communication, cultivating nuclear safety culture, and enhancing internal oversight functions.
- The results of the assessment were reported to the Nuclear Reform Monitoring Committee during its 15th meeting on October 5. In light of a rash of troubles that occurred, we reexamined our efforts regarding strengthening human resource training and improving communication and then presented an action plan for improvements to the Committee during its 16th meeting on January 29.
- In its review, the Committee wrote, "When conducting your assessments, we want each department to makes strict assessments and identify weaknesses. You need to clarify what human resources are needed and how employees are to be trained. In regards to communication, you need to transition from conveying information to providing information that is easily understood. Do not forget that reflecting upon the Fukushima Nuclear Accident is the basis for regaining trust." In accordance with our action plan for improvements, we are moving forward with initiatives to leverage IT in office tasks to reduce human error, and we will periodically implement information disclosure training with the cooperation of the Nuclear Power Division and the Corporate Communications Department.



16th Nuclear Reform Monitoring Committee meeting (January 29)

Internal oversight department activities

The Nuclear Safety Oversight Office, which provides internal oversight, has made the following suggestions in the pursuit of excellence:

- To improve quality assurance in light of nonconformance incidents regarding the fuel-handling machine for the Fukushima Daiichi Unit 3 spent-fuel pool, enhance risk assessment for each step of design, manufacturing and use of equipment. (Fukushima Daiichi)
- To identify problems and implement improvements before such problems are pointed out by regulatory agencies, develop preemptive processes to demonstrate to regulators that we are responding to problems proactively.

Nuclear Safety Reform Plan Progress Report

Initiatives to Improve Safety Awareness

To improve safety awareness, Japan's nuclear leaders are benchmarking overseas nuclear power stations that have good reputations and learning about the nuclear safety cultures as these facilities.

The Deputy General Manager of the Nuclear Power & Plant Siting Division visited Arizona Public Service's Palo Verde Generating Station and Exelon's Three Mile Island Nuclear Generating Station. Nuclear safety culture and design schematic management were benchmarked, and excellent practices, such as the construction of a design schematic management system, etc., shall be deployed.

The primary cause of our headquarters' insufficient preventative measures, which were identified on November 27, is the lack of a mechanism for effectively monitoring how required information is obtained and managed. Therefore, a mechanism that allows administrators to periodically check what information has been entered into the system will be introduced to enhance oversight. We are also making further improvements in work quality as part of seriously examining the safety regulation infractions identified by the Nuclear Regulation Authority.



Exchanging opinions with executives at Palo Verde Generating Station



Field observation

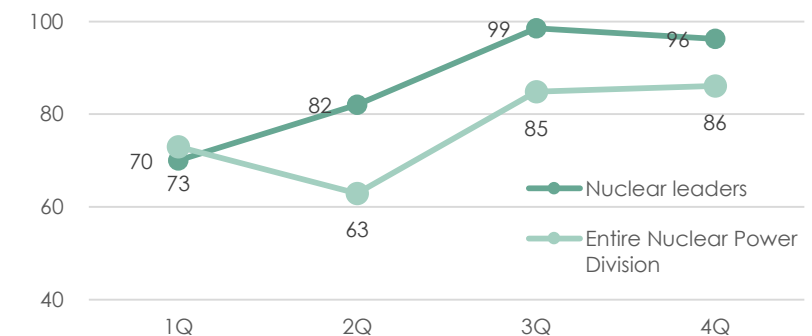
KPI Results* - Safety Awareness

*We added five KPIs in FY2018 to advance our safety reforms (reported in FY2017 Q4 progress report) and targets were raised 10 points above FY2018 levels. We aim to achieve these targets by the end of the fiscal year.

Nuclear leaders: **96 points**

Entire Nuclear Power Division: **86 points**

(Target: 80 points)



Nuclear Safety Reform Plan Progress Report

Initiatives to Improve Communication Abilities

To provide information that is easily understood, it is important that the Nuclear Power Division, which handles our information provision, quickly and accurately share information with related departments regarding issues of great concern to society. Also, our communications departments (Corporate Communications, Regional Relations, etc.) must provide information that is easily understood. In addition, our communications departments must inform the Nuclear Power Division about the opinions of society and issues of concern to people.

To improve awareness of how information needs to be disseminated, we are holding group discussions, hosting training by external instructors and examining case studies. In addition, each power station is engaging in Kaizen activities to improve their internal and external communication.

We also have created pocket guidebooks to be given to Fukushima Daiichi visitors to help their families and friends learn about the power station.



Training by external instructors



Pocket guidebooks for Fukushima Daiichi visitors

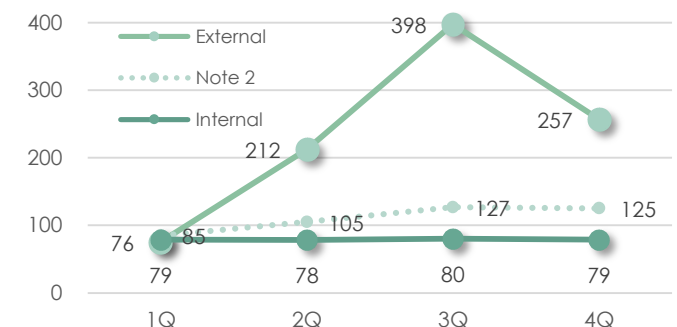
KPI Results* - Ability to Promote Dialogue

*We added five KPIs in FY2018 to advance our safety reforms (reported in FY2017 Q4 progress report) and targets were raised 10 points above FY2018 levels. We aim to achieve these targets by the end of the fiscal year.

Internal: **79 points**

External: **257 points**

(Target: 80 points)*



* Q3 values for the ability to promote dialogue (external) increased substantially due to the more than 50,000 opinions received during visits to all the homes in the Kashiwazaki-Kariwa region, however the values for Q4 are lower because they indicate the average of PI (Dialogue 4,5) that assess the results of the yearly questionnaire.

Note 2: The dotted line for ability to promote dialogue (external) is for reference and shows the number of points excluding the number of opinions received during visits to all homes.

Nuclear Safety Reform Plan Progress Report

Initiatives to Improve Technological Capabilities

Although we are moving forward with initiatives to improve our technological capabilities, we have once again become painfully aware of our weakness in checking the quality of equipment and work processes and making improvements on our own, so we have begun addressing these issues.

The Nuclear Human Resource Development Center employs a systematic approach to training (SAT) for its education and training programs. During the fourth quarter, our emergency response personnel participated in training at the Center to learn about proper behavior and response procedures during accidents. We are striving to improve the technological capabilities of personnel to enable them to make correct decisions and respond appropriately during accidents.

At our testing facility in Kobe (E-Defense), we conducted a vibration test of the blowout panels used for the Unit 7 reactor building at Kashiwazaki-Kariwa (March 27 and 28). The seismic resistance of the panels' closing mechanism was tested to ensure that they can be opened to prevent a build up of pressure inside the reactor building and then be quickly closed again to contain radioactive substances.



Learning about plant behavior during an accident



Blowout panels vibration test

KPI Results* - Technological Capability

*We added five KPIs in FY2018 to advance our safety reforms (reported in FY2017 Q4 progress report) and targets were raised 10 points above FY2018 levels. We aim to achieve these targets by the end of the fiscal year.

Times of non-emergency: **123 points**

Times of emergency: **92 points**

(Target: 110 points)

