

- In order to “Keep the Fukushima Nuclear Accident firmly in mind; we should be safer today than we were yesterday, and safer tomorrow than today; we call for nuclear power plant operators that keep creating unparalleled safety,” we are moving forward with the Nuclear Safety Reform Plan as we aim to achieve the world’s highest level of safety at our power stations.
- At the Nuclear Reform Monitoring Committee meeting held on January 30, it was pointed out as a result of the committee’s review of TEPCO’s self-assessment of the Nuclear Safety Reform Plan that, alignment of the activities for the organization as a whole and the lack of developed internal communication required for that is a weakness. Therefore, we will formulate an action plan that eliminates the lack of communication and coordination between departments, and closely monitor the implementation of this plan and the results achieved through it.
- Insufficient handling by TEPCO of New Regulatory Requirement compliance reviews at the Kashiwazaki-Kariwa Nuclear Power Station has resulted in a breakdown of trust with regulatory agencies, the residents of Niigata Prefecture, and society as a whole. We will ensure that countermeasures are carried out in order to improve the awareness of employees in the Nuclear Power Division and continually confirm that our actions prioritize the local community and consider the perspective of society, while at the same time proactively identifying new issues and engaging in undying efforts to make improvements.

1. The Status of Progress of Safety Measures at Power Stations

- ◆ At the Fukushima Daiichi NPS, the scope of freezing of the land-side impermeable wall has gradually been expanded and at current time there is only one location that has yet to be frozen. At Unit 1 and Unit 2 self-propelled investigation robots were inserted into the reactor Primary Containment Vessels (PCVs).
- ◆ At the Fukushima Daini NPS, countermeasures to deal with equipment operation and event reporting issues were implemented in light of TEPCO’s failure to quickly report to the national and local governments about the shutdown of the cooling system of the Unit 3 spent fuel pool as a result of the earthquake that occurred in November of last year.
- ◆ At the Kashiwazaki-Kariwa NPS, Safety measures to handle all types of hazards continue to be steadily implemented. On February 16, members of the Nuclear Regulation Authority performed a field inspection and examined the area in which a Technical Support Center (TSC) will be built at Unit 5.

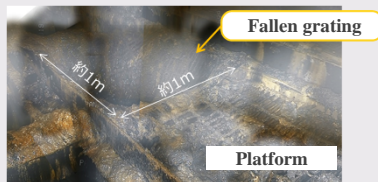
Fukushima Daiichi Nuclear Power Station

Conducting internal investigations of the Unit 1 and Unit 2 reactor PCVs in preparation for fuel debris removal

- At Unit 1 an investigation was conducted between March 18 and March 22. In addition to being able to photograph the conditions at the bottom of the PCV around the pedestal opening for the first time since the accident, it was also confirmed that radiation levels increase as you approach the floor of the PCV.



Images taken from inside the Unit 1 PCV (Near the floor of the reactor PCV)

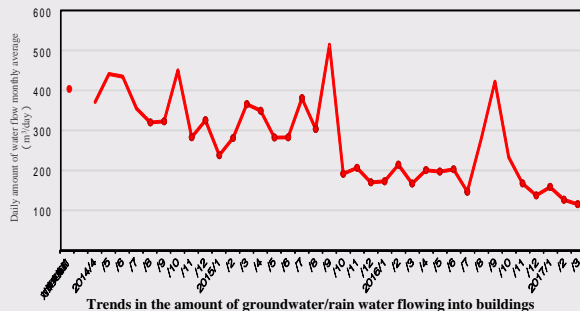


Images taken from inside the Unit 2 PCV (Fallen grating inside the pedestal)

- An investigation of Unit 2 was conducted between January and February. Deposits and fallen pieces of grating were found at the CRD replacement rails and inside the pedestal

The impact of the impermeable wall at stopping the flow of groundwater is evident

- Freezing of four out of the five as of yet unfrozen portions of the land-side impermeable wall has commenced (March 3)
- As a result of such countermeasures as the impermeable wall and the use of groundwater bypasses/sub-drains, the flow of groundwater and rain water into buildings has been reduced from approximately 400 m³/day prior to countermeasures, to a three month average of approximately 120 m³/day, thereby enabling achievement of our goals.



Fukushima Daini Nuclear Power Station

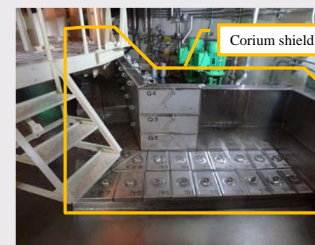
Improvement of earthquake countermeasures in light of the shutdown of the Unit 3 spent fuel pool cooling system in November of last year

- Water levels in the skimmer surge tank will be kept higher in order to prevent them from decreasing unnecessarily below levels required for cooling pump operation in the event that water levels fluctuate during an earthquake.
- In order to rectify delays with reporting and disclosing troubles, the mechanism for reporting/disclosing troubles shall be enhanced by adding a report/disclosure manager to night and holiday shifts so as to prevent complications with other tasks in the event of an accident or troubles.

Kashiwazaki-Kariwa Nuclear Power Station

Learning from the experience with the Fukushima Nuclear Accident, a wide variety of safety measures have been implemented in order to deal with not only earthquakes and tsunami, but the plethora of other hazards that could cause a severe accident

- In order to prevent contact between molten fuel and the bottom liner of the reactor PCV during a severe accident, a corium shield made of ultra-heat resistant material [heat-resistant zirconium: Heat resistance: Approx. 2,700] was installed at Unit 6 (Completed on March 30) following installation at Unit 7.
- On February 16 the Nuclear Regulation Authority performed a field inspection and examined the area at which a TSC will be built at Unit 5, the access route from the main building to Unit 5, and measures to prevent water from permeating into the service tunnels for electric cables which are inside of the tsunami wash up zone.



Corium shield installation at Unit 6



Unit 5 TSC construction area (Field inspection by the Nuclear Regulation Authority)

Insufficient handling by TEPCO of the New Regulatory Requirement compliance reviews at Kashiwazaki-Kariwa Units 6/7

Serious deficiencies with documents and explanations given during New Regulatory Requirement compliance reviews resulted in harsh criticism of TEPCO by the Nuclear Regulation Authority and Niigata Prefecture.

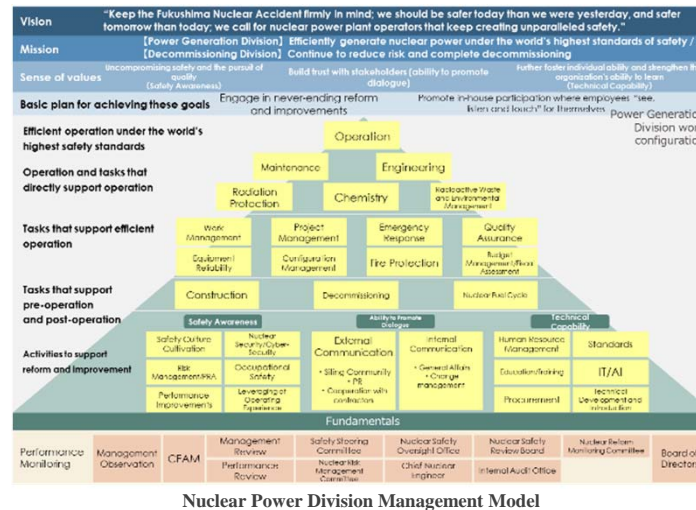
- At the review meeting held on February 14 to discuss the compliance of Kashiwazaki-Kariwa Units 6/7 with the New Regulatory Requirements, TEPCO was not able to clearly explain that the seismic isolated building is able to withstand an earthquake of the same magnitude as the Niigata-Chuetsu-Oki Earthquake nor clearly respond about the validity of seismic resistance analyses of the seismic isolated building conducted in the past. This caused the parties involved to question the reliability of TEPCO’s explanations. An investigation revealed that there had been insufficient handling by TEPCO of other documents and explanations aside from those pertaining to the seismic isolated building.
- As requested by Niigata Prefecture, an investigation was conducted and the following three points for reflection were identified. (1) The fact that the seismic isolated building “does not satisfy the seismic resistance requirements of the New Regulatory Requirements” was not accurately conveyed to the residents of Niigata Prefecture and society as a whole. (2) As a consequence of only conveying that the seismic isolated building would be the “primary TSC,” TEPCO’s plan to use this facility in conjunction with the TSC at unit 5 (unit 3) was not widely conveyed. (3) The decision to not use the seismic isolated building as a TSC, which is an important policy change, was only conveyed to the local government immediately prior [to the meeting].

Improvements will be made by focusing on examining precedents at other electric companies, enhancing the management framework for reviews, and improving internal/external communication

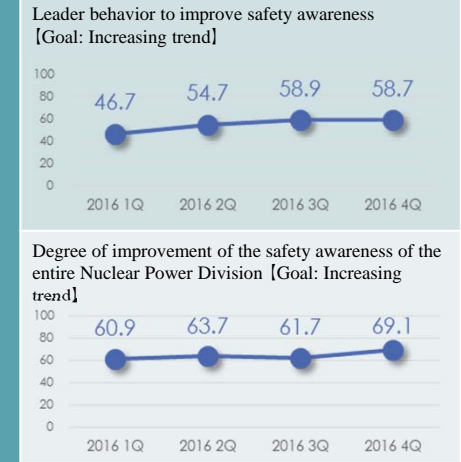
- Expert teams intimate with regulatory standards and project supervisors for each specialty field were created in order to improve the accuracy of documents and explanations used during reviews and enhance coordination between specialty fields.
- The following three communication improvements will be made. (1) Coordination between Head Office compliance review-handling departments and communication departments responsible for dealing with the local community, will be strengthened (2) Events that have a social impact will be explained sincerely and carefully to the residents of Niigata Prefecture and society as a whole (3) Important decisions, such as changes to safety measures, will be sincerely and carefully conveyed to the residents of Niigata Prefecture

2. Nuclear Safety Reform Plan Progress Status (Management Reforms)

- ◆ In order to enhance governance of the entire organization, which was identified as a "weakness" during the self-assessment of the Nuclear Safety Reform Plan conducted during the first half of the year, a management model project is underway (started in July 2016)
- ◆ Clearly state an ideal vision of how individuals should interact with the organization thereby enabling them to engage in their duties while having a common understanding of the final objective and each other's roles
 - The objectives and roles of each duty, and the relationship between those duties and other duties shall be clearly shown using a management model diagram of the Nuclear Power Division
 - The ideal behaviors desired of individuals in each area shall be compiled as basic actions and initiatives started to permeate these behaviors.
- ◆ Having each department and individual understand the relationship between their work and the work of others will enhance cooperation and promote action to achieve ultimate goals (eliminate lack of communication between departments)



Safety awareness/safety consciousness KPIs



Safety awareness

Measure 1 Reform from top management

- Initiatives to repeatedly reflect upon the Fukushima Nuclear Accident
 - Direct dialogue with the General Manager of the Nuclear Power and Plant Siting Division, lectures by those people that actually handled the accident, and group discussions are being leveraged as opportunities to strengthen our resolve to improve nuclear safety and help Fukushima to recover
- Communicating with contractors
 - Representatives of head office management are visiting power station contractors to exchange opinions on nuclear safety (two companies visited on February 16, one company visited on March 16)



March 11: direct dialogue between the CNO and young employees (Head Office)

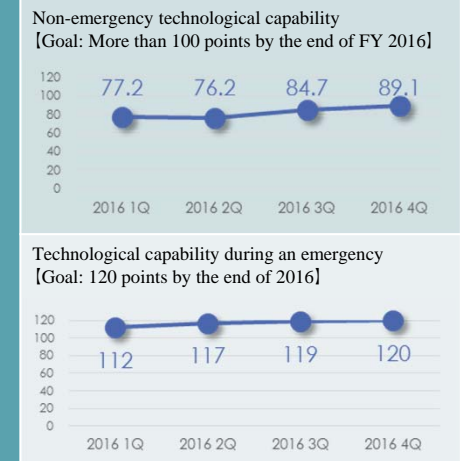
Measure 2 Enhancement of Oversight and Support for Management

- Monitoring and assessment by the Nuclear Safety Oversight Office (NSOO)
 - Three more of the 128 recommendations were completed during this quarter (total of 97 recommendations completed), and three more were made
 - The NSOO is focusing on major change management by engaging in efforts to improve risk awareness and introducing basic actions
- Enhancing management observation (MO)
 - 56 people engaging in management observation participated in a lecture by overseas experts
 - This system is being used across the entire company to efficiently gather and analyze the results of power station observation.



Individual coaching of management observers (Kashiwazaki-Kariwa)

Technological capability KPIs



Technological capability

Measure 3 Enhancement of Ability to Propose Defense-in-Depth

- 10 of the 286 of submissions for the sixth competition to improve the ability to make safety proposals, which is held to revitalize activities to voluntarily improve safety, were selected as excellent proposals.
- Important operating experience (OE) study sessions are being held at the Head Office and power stations in order to understand overviews of severe accidents and the lessons learned from the accidents (total number of participants: 132)



Important operating experience (OE) study session (Head Office)

Measure 5 Enhancement of the Emergency Response Capability of Power Stations and the Head Office

- Training was held on earthquake-induced simultaneous disasters at the Fukushima Daiichi NPS, Fukushima Daini NPS and Head Office (March 28). The effectiveness of mechanisms that enable the Head Office to ascertain and share information on the impact of radiation, and reflect this information in countermeasures, was examined.
- Training on transferring operations to the Unit 5 TSC at Kashiwazaki-Kariwa was held (March 11, 100 participants)



Training on relocating to the unit 5 TSC (Kashiwazaki-Kariwa)

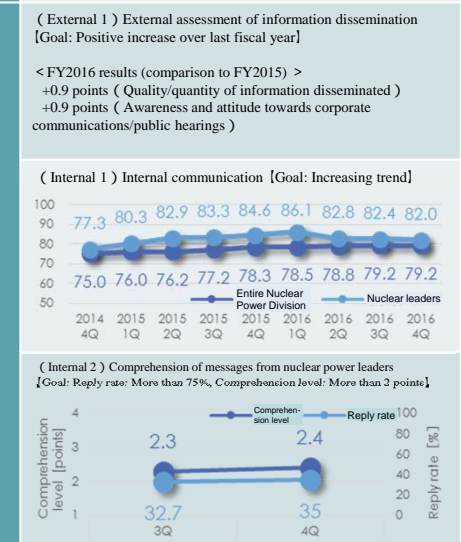
Measure 6 Development of Personnel for Enhancing Nuclear Safety

- Preparations are underway to establish a Nuclear Engineering Center for enhancing the technological capability of the organization, and in particular engineering fields.
- Training was held to reaffirm the roles and mission of middle management (General Managers/Group Managers class) and accelerate nuclear safety reforms



Power station general manager training

Ability to promote dialogue KPIs



Ability to promote dialogue

Measure 4 Enhancement of Risk Communication Activities

- Promote the disclosure of information and benchmarking concerning safety measures at the Kashiwazaki-Kariwa NPS and the decommissioning of the Fukushima Daiichi NPS
 - Members of the Football Association of Japan, the J-League and Nedeshiko League were invited to come to the Fukushima Daiichi NPS to commemorate the creation of the DREAM Fukushima Action Plan, a program designed to convey the realities of Fukushima through the promotion of soccer and thereby aid in Fukushima's recovery. (January 10, March 31)
 - A "TEPCO Newsletter" is being included in newspapers to convey the efforts of the Niigata Headquarters (January 24)
 - Opinion exchange sessions were held with female intellectuals living in Niigata Prefecture about the current conditions at the Fukushima Daiichi NPS and the seismic isolated building problem. (March 6, 7)
 - The Fukushima-West Cumbria Study, which was started to enable Sellafeld Ltd. in the UK and TEPCO to learn from each other about reactor decommissioning, continues (January 23, March 27)



Visit to Fukushima Daiichi NPS by Football Association of Japan