

Nuclear Safety Reform Plan

FY2020 Q1 Progress Report

Special Issue

~How has the way we work changed?~

TEPCO

Tokyo Electric Power Company Holdings, Inc.

August 25, 2020

Foreword

We would like to offer our deepest apologies for the inconvenience and concern that the Fukushima Nuclear Accident, and subsequent troubles, have caused the siting community and society as a whole. We will continue to work as one to provide compensation quickly and smoothly, accelerate recovery efforts in Fukushima, move steadily forward with decommissioning, and ensure that nuclear safety is our first priority.

On March 29, 2013, TEPCO announced its Reassessment of the Fukushima Nuclear Accident and Nuclear Safety Reform Plan to implement nuclear safety reforms. Since then we have provided quarterly updates on the progress of these reforms. The following is a report on the progress that we have made during the first quarter of FY2020 (April-June 2020).

Furthermore, in an effort to make the report easier to understand and read, we have unified the format of text and graphs, and have included the information provided in the overview as part of the report itself.

You will notice that in some of the photographs, employees are not wearing masks. At TEPCO, we are requiring all employees to wear masks at all times, but in order to show you the facial expressions of our employees, we have taken these photographs upon implementing thorough measures to prevent the spread of Covid-19. Some of the photographs were also taken prior to December 2019, and predate the pandemic.

Special Issue~How has the way we work changed?~

In addition to the conventional progress report that we issue, starting this quarter we have also included a special issue in order to convey in detailed thoughts of leaders and the progress (changes) that we have made in regards to a specific issue. In this “special issue” we have selected a specific topic from amongst the nuclear safety reforms that TEPCO has engaged in to date. We believe that there is value in explaining the background of this topic and providing you with greater detail about it. Furthermore, we believe there is great meaning in not only conveying the progress that we have made to society, but also conveying the thoughts of leaders, and providing an overall picture of the progress that we have made with reforms, to younger employees, in particular.

The topic that we have chosen for the first quarter is, “How has the way we work changed?” We will go into further depth about this topic using the Management Model, which was created as a signpost for the way in which work is engaged in by the Nuclear Power Division.

What is the Management Model?

The Management Model is an internal document created to stipulate “how work is to be done” in order to achieve the world’s highest levels of safety and work quality.

The Management Model stipulates a method for engaging in work in order to continually create unparalleled levels of safety in accordance with our approach, and resolution, to never allow a severe accident to occur again as the party that was responsible for the Fukushima Nuclear Accident, which has been put forth in the Reassessment of the Fukushima Nuclear Accident and Nuclear Safety Reform Plan.

The Management Model clearly stipulates various tasks as being vital for achieving safe and efficient nuclear power station operation, and explains the “ideal state” of each of these work processes that should be aimed for. Each and every one of us are responsible for thinking about the ways in which to achieve these ideal states.

In other words, the Management Model serves as a signpost for understanding the real meaning of our work, and thinking and acting accordingly.

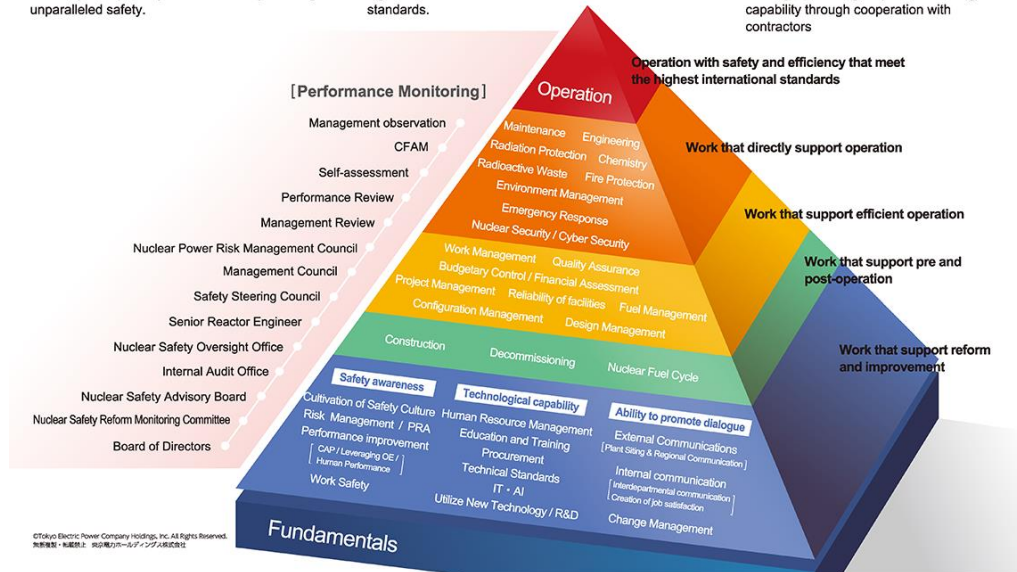
Nuclear Power & Plant Siting Division Management Model

Vision : 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.

Mission : To achieve nuclear power generation with safety and efficiency that meet the highest international standards.

Values : Safety awareness, Technological capability, Ability to promote dialogue

Basic policy to achieve goals : Constant reforms and improvements, Promotion of work under direct management by seeing, hearing and feeling, Improve technological capability through cooperation with contractors



Top interview

“Our job is to continually make improvements in the pursuit of safety. And, understanding that is vital.”



Director/Managing Executive Officer
Nuclear Reform Special Task Force Secretary General

Shigenori Makino

Q Why did you decide to change the way you work?

After the Fukushima Nuclear Accident in 2011 we learned many lessons, such as that we lacked safety awareness, technological capability, and the ability to promote dialogue. In order to get the world to allow us to operate a power station as a nuclear operator, we realized that we needed to fundamentally re-examine why we are doing the work we do, clarify each and every mechanism and

role, and share that information throughout the entire organization. The tool created to do this is the Management Model. Every task has been organized into a pyramid structure with operations at the top. This clearly shows that all the work we do supports operations. The model also defines how each and every person's task relates to power station operation as a whole. By having each and every employee deeply understand the Management Model and act accordingly, we can create a new future. Furthermore, one of the good things about the Management Model is its high degree of transparency. This makes it easier to objectively compare ourselves with outstanding

nuclear operators overseas and provides us with a tool for mutual understanding.

Q What did you focus on when changing the way you work?

Our basic approach was to compare the ideal state put forth in the Management Model with our current condition, identify gaps and make improvements. Therefore, we introduced various performance indicators (PI) and created signposts to achieving higher levels of performance.

Above all, we want employees to understand that their job is to continually make improvements in order to improve safety through the Management Model and to not be content with our current situation. Just as the “Never-ending Journey” implies, there is no end to initiatives that aim to improve safety. That's what we have placed the most importance on.

Q It's been three years since you created the Management Model. Could you give your honest assessment of the Management Model as a company leader?

We define the Management Model as a corrective action program (CAP) designed to improve performance. Within this program we are supposed to identify the true causes of problems that occur and implement recurrence prevention measures; and I think we are doing this. In actuality, the number of serious non-conformances is on a declining trend.

However, we are still having problems with identifying signs of trouble and preventing problems before they happen. Therefore, we are strictly enforcing initiatives to analyze equipment and organizational weaknesses, and make improvements. The foundation of these efforts are condition reports, which are used to input information on “things noticed.” The inputted information is analyzed and assessed, and we have seen an uptick in the number of filed condition reports as of late. I often say that the most important thing is to notice, think, and act; and I think employees have started to understand the importance of noticing problems.

Q What changes would you like to see in the Nuclear Power Division?

Engineering-related employees have a tendency to think that they can bring about trust and understanding indirectly by focusing only on, and improving the quality of work at, the power station. However, community residents will never allow us to operate our power stations if we don't strive to provide them with direct explanations, get them to trust us, and turn safety into peace of mind. In order to do this, it's important that all employees think about how to get regional residents, and society as a whole, to understand power station initiatives and act accordingly. I want employees to focus on that more than ever. That will lead to the cultivation of trust.

We have created opportunities to tell regional residents about TEPCO's technologies and initiatives, but we need to continue to do so while always being aware of whether they are really understanding what we're trying to convey and being certain that we are not becoming self-satisfied.

Q What do you expect from each and every employee?

In regards to nuclear power generation, we have a long history, lots of manuals, and practices that have become customary. However, it is extremely important that we re-examine these practices to confirm that they are indeed meaningful, and incorporate new knowledge. It's natural that the age in which we live should give birth to new and better ways of doing things, and I think that applying IoT, etc. is a typical example of this. In some cases, it may be necessary to revise processes and reconfigure equipment.

That's why I want each employee in the field to be creative and innovative, and continually make improvements. And, I want them to approach these issues with the attitude that learning is something we should do throughout our lifetimes. No matter how good the equipment is, in the end it's people that operate that equipment. To improve safety each and every person needs to continually learn and grow. It's important to learn and fill in the gaps in areas that we do well, but it's also important to grow through failure.



I'd like each and every employee to be able to ascertain “why” something happened, analyze the failure, propose countermeasures, and implement action without fail.

Becoming an organization that can continue to make improvements and learn on its own

As the Management Model has permeated throughout the company, we have started to gain awareness about the positioning of improvements within our duties. And, we've seen people from various departments gather together to identify common issues that are not unique to their own fields. This is because the Management Model is functioning as a common language within the company. In addition, prior to creation of the Management Model we were unable to understand and fully digest the issues that were pointed out during reviews by overseas parties. By creating the Management Model, we created a

common language by which to talk with parties outside the company, and it became easier to understand the issues that were pointed out, and get them to understand our initiatives. Furthermore, it became easier to understand best practices. I think this is a huge advantage.

We created the Nuclear Safety Reform Plan and have implemented various countermeasures based on that plan. There is no end to nuclear safety reforms. And, there are many things that we must continue to address.

Engaging in various duties and promoting improvements based upon the Management Model will enable us to fulfill our vow to Fukushima. It's been almost

10 years since the Fukushima nuclear accident, and the number of young employees who were not at the company when the accident happened is increasing.

We need to have these people understand the thinking behind the Management Model, and thoroughly understand it. This will literally enable us to promote, "nuclear safety reforms for the next generation."

Our future selves should pursue excellence based upon the Management Model. The pursuit of excellence means, "aiming for the world's highest levels of safety." We need to compare ourselves with others, continue to make improvements, look to outstanding initiatives both within and outside of Japan, and continue to make improvements and learn. That's the type of Nuclear Power Division we should be, and that's what the Management Model aims to achieve.



We aim to enable the Management Model to permeate throughout the company by hanging posters in various locations on site.

Starting to Use a Decommissioning Management Model that Leverages the Spirit of the Nuclear Safety Reform Plan



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Corporate Officer
Fukushima Daiichi Decontamination & Decommissioning
Engineering Company
Project Management Officer GM/Fukushima Headquarters

Junichi Matsumoto

Thoroughly aligning the vectors of management in regards to safety

There are three basic documents needed to move forward with decommissioning in a planned manner. The Mid/Long-Term Roadmap, which stipulates the government's goals for decommissioning, the Mid/Long-Term Decommissioning Plan, which stipulates detailed technical work processes for achieving those goals, and the Decommissioning Promotion Strategy, which puts forth the Fukushima Daiichi Decontamination & Decommissioning Engineering Company's (FDEC) basic policies and approach to carrying out the Mid/Long-Term Decommissioning Plan.

The Decommissioning Promotion Strategy is revised annually and we released our Decommissioning Promotion Strategy 2020 in February 2020. When making the revisions, we created a decommissioning version of the Management Model based upon the Management Model used in the Nuclear Power & Plant Siting Division in order to strengthen decommissioning management initiatives.

When creating the Decommissioning Management Model, primary executives, including the Director of Decommissioning and Contaminated Water Countermeasures, repeatedly engaged in debate to arrive at a basic policy for the entire model. In particular, we made sure that there were no discrepancies between the awareness of each and every member of management in regards to "safety" as promoted by the FDEC. Furthermore, we placed importance on incorporating the opinions of general managers and managers, who serve as the core of power station operations, during the drafting stage of the model.

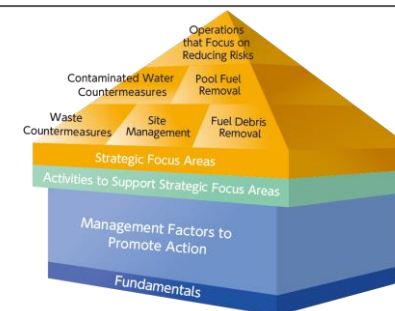
Decommissioning with the same intentions under the same roof

The Decommissioning Management Model has inherited the spirit of the Nuclear Safety Reform Plan and puts forth a vision based upon "our resolution." It also has the same values in regards to safety awareness, technological capability, and the ability to promote dialogue, and takes the same direction as the Nuclear Power & Plant Siting Division's Management Model. The Decommissioning Management Model has six strategic focus areas: operations that reduce risk, contaminated water countermeasures, pool fuel removal, fuel debris removal, waste countermeasures, and total site management. The model is shaped like a house to provide a visual representation of the teamwork taking place

under one roof as we engage in decommissioning. In conjunction with this, we have also started using a decommissioning version of the fundamentals in order to leverage commonalities with the Nuclear Power & Plant Siting Division's version of the model while making innovations to deal with decommissioning tasks that change on a daily basis. At the FDEC, a decommissioning promotion forum is held once a month during which members ask and answer questions about a certain topic. Going forward, focus will be put on this type of dialogue in order to enable the Decommissioning Management Model and Fundamentals to permeate throughout the organization.

Showing the younger generation who will take over commissioning what the ideal state looks like March 11 of next year will mark the 10th anniversary of the accident. As "our resolution" in the Nuclear Safety Reform Plan states, there is no end to improving safety. We will show the state that we're looking to achieve to the younger generation who will take over commissioning in the future, and what our ideal state looks like without ever forgetting the lessons we learned from the Fukushima nuclear accident.

Decommissioning Management Model (concept diagram)



Fukushima Daiichi

Moving safely and steadily ahead with decommissioning and becoming an organization that can contribute to Fukushima recovery



Corporate Officer
Vice-President, Fukushima Daiichi Decontamination & Decommissioning Engineering Company and Fukushima Daiichi Nuclear Power Station Site
Superintendent/Fukushima Headquarters

Tomohiko Isogai

Moving forward appropriately with decommissioning

In April 2020, the Fukushima Decontamination & Decommissioning Engineering Company (FDEC) created a Decommissioning Management Model for 1F and also engaged in large-scale department reorganization in order to strengthen and promote this model. In light of the fact that decommissioning work at the Fukushima Daiichi has transitioned from dealing with troubles, or in other words “putting out fires,” to focusing more on construction-

related projects, the objective of this initiative is to maintain and manage safety and quality, which are indispensable for decommissioning, in a stable manner.

We have created five program departments to manage programs as well as a system where each program manager will promote project work with a strong sense of responsibility. Depending on the scale and the amount of time required to complete the project, these five departments will be distinguishing programs between “in-house programs” (fuel removal, fuel debris removal), for which the program departments will manage everything from drafting construction plans to design and construction management, and “consigned programs” (contaminated water countermeasures, waste countermeasures, total site management and handling), which the newly established Planning and Design Center (which will manage design and construction), and the Construction, Operation, and Maintenance Center will coordinate together to complete.

Furthermore, we have also created a Decommissioning Safety and Quality Office, which will be under the direct supervision of the Chief Decommissioning Officer (CDO), in order to improve the quality and safety of the entire FDEC related to not only decommissioning work, but also procurement and corporate communications. At Fukushima Daiichi, our first priority when it comes to all decommissioning work is safety, and moving forward with tasks safely enables us to keep on schedule. In accordance with this basic principle we shall continue to maintain and improve the safety and quality of decommissioning work.

Engage in duties while remaining aware of how we are connected to the local community

Moving forward safely and in a planned manner with decommissioning work is the foundation of decommissioning management, but it is also necessary to know how recovery in Fukushima is being planned and promoted, and to understand how decommissioning work relates to recovery.

When dismantling the Unit 1/2 exhaust stack, we completed the task in cooperation with a local company called ABLE Co. Ltd., and when using a submersible robot to investigate the Unit 2 spent fuel pool, the Fukushima Robot Test Field located in

Minami-Soma was used to implement remote operations training in a simulated work environment.

The understanding and cooperation of the local community are indispensable as we move steadily forward with decommissioning.

It's important to not only receive help from the region, but also to think how the work that TEPCO engages in affects recovery in Fukushima. It's not sufficient for us to just keep to the schedule and move forward with work, efforts to contribute to recovery in Fukushima by planning and implementing decommissioning work that provides peace of mind to regional residents are a necessary part of decommissioning management.

At Fukushima Daiichi we will continue to deliberate ways in which we can engage in our work while remaining aware of how we are connected to regional communities.

Fukushima Daini

All site personnel have come together to complete decommissioning safely



T9



Nuclear Power & Plant Siting Division, Fukushima Daini
Nuclear Power Station Site Superintendent/Unit
Superintendent/Nuclear Human Resource Training
Center/Fukushima Headquarters

Takaki Mishima

Changing our mission from power generation to decommissioning

July 2010, I was assigned for the first time to Fukushima Daini with the task of ensuring that long-term cycle operation of Unit 3, which was to begin the following year, was successful. At the time, Fukushima Daini was highly regarded for its stable operation performance and outstanding ability to conduct short outages, and I can remember being ecstatic about being given the opportunity to be directly involved with the operation of this plant.

Now, 10 years later, I have been given a new mission. The simultaneous decommissioning all four reactors at Fukushima Daini.

Becoming an organization where we think, notice, act, and make improvements on our own

Approximately one out of every five people in the Nuclear Power Division were not at the company when the Fukushima Nuclear Accident occurred. Amidst these circumstances we must be sure that we pass down the regrets and lessons learned from the Fukushima Nuclear Accident to the next generation, and also evolve into an organization that continues to pursue nuclear safety, and ensure that we are “safer tomorrow than we are today” in regards to all our daily duties. The Management Model serves as a signpost on the road to achieving this objective.

At Fukushima Daini, we engage in our daily duties while always thinking about the Management Model. To use maintenance as an example, recent initiatives such as increasing the number of companies that participate in regular morning meetings, increasing the amount of equipment that is subject to in-house maintenance, and conducting seismic resistance assessments in-house, fit with the Management Model’s “important success factors” and “ideal state.”

With the revision of the Management Model in July, I expect managers to increase the amount of time that they purposefully use the Management Model in the course of their duties and directly engage in dialogue with members about the Management Model, and I expect each and every site worker to assess current conditions, think about what needs to be done, and display effective leadership and teamwork as they remain actively involved.

Furthermore, I hope that they will focus on improving performance by leveraging the Fundamentals, which put forth the basic principles for engaging in our duties, and thoroughly using corrective action programs (CAP). Additionally, since

Toyota-type kaizen are an effective means of achieving the objectives of the Management Model, I hope to actively promote the use of such kaizen more than ever.

Formulating an “ideal state” by promoting safe and efficient decommissioning

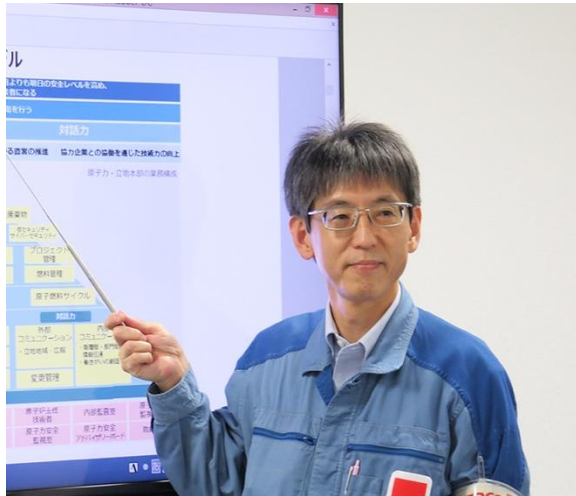
Our mission concerning Fukushima Daini is to, “decommission the plant normally with the world’s highest levels of safety and efficiency.” Currently, our application for authorization of our decommissioning plan is being reviewed, and we are simultaneously creating safety regulations for decommissioning.

However, many site personnel were uneasy about this sudden change in our objective from operation to decommissioning. That’s why we’re moving forward with decommissioning after establishing four working groups made up of site personnel volunteers as well as the Fuku-ni Future Committee, which was established for the purpose of gathering the skills of all personnel to achieve the ideal state of Fukushima Daini that we have clarified. One of these working groups, the decommissioning working group, is engaged in initiatives to eliminate uneasiness by providing information about the current state of decommissioning, and also deliberation of a Management Model that fits with normal decommissioning. Other working groups focusing on topics such as “symbiosis with the regional communities,” “maintaining and improving personnel motivation (happiness),” and “creating a vision of the future,” are vigorously engaging in discussions.

By continuing to invigorate these discussions, personnel at Fukushima Daini will come together as one to carry out conventional decommissioning in a safe and efficient manner.

Higashidori Site

Aiming to construct a power station with the world's highest levels of safety and efficiency



Aomori Office
Higashidori Nuclear Power Station Construction Site
Superintendent

Takeshi Ota

Getting regional residents to accept the plant

In March 2019, we formulated the Aomori Action Plan in order to present anew our resolution for completing power station construction in Higashidori Village and Aomori Prefecture, and in July 2019 we established the Aomori Office in order to further hash out the details of this action plan.

The first of six categories in this action plan is the, “pursuit of safety.” In order to get regional residents to accept the construction of a nuclear power station, it is necessary that we not only satisfy new regulatory

requirements, but also incorporate outstanding initiatives engaged in by leading operators both within and outside of Japan as we aim to achieve the world's highest levels of nuclear safety.

Construction of the Higashidori Nuclear Power Station was suspended immediately after it began in 2011 due to the Great Eastern Japan Earthquake and Tsunami and the Fukushima Nuclear Accident. As we look to recommence construction, we have drastically changed the way in which we will continue this project due to the need to incorporate the world's highest levels of nuclear safety during the design and construction stages.

Power stations and construction sites will use the same Management Model

The Management Model has operations at the top of its pyramid structure, but a construction site engages in each individual task the same way as a power station does. We do not engage in tasks related to operations or radiation protection, but the categories in our “Tasks to support reforms and kaizen,” are “Safety awareness,” “Technological capability,” and “The ability to promote dialogue,” (which were formulated in light of our regrets about the Fukushima nuclear accident), just like the Nuclear Power Division.

Since I became Construction Site Superintendent in July of last year, I have worked with employees who were also members of the Management Model project, like myself, and incorporated mechanisms aimed at improving performance. For example, as one of our corrective action programs (CAP), we have started filing condition reports (CR), which are intended to shift the focus of our activities

from making corrections, to prevention. A lot of information on issues that have been noticed and near-misses, etc. have been gathered in the form of CRs, enabling us to shift our focus to preventing non-conformances before they happen through the analysis and assessment of such information.

We are also promoting the use of human error prevention tools. Prior to my appointment in this position we used to refer to test pits drilled for geological surveys as “pit A” and “pit B,” etc., But now, in order to accurately convey the appropriate letter, we use the phonetic code and refer to such pits as “pit Alpha” and “pit Bravo.”

Aiming to form a consortium

In August 2019, TEPCO signed a basic agreement on the deliberation of a consortium in order to operate boiling water reactors (BWR) in a safe and economical manner, and build a sustainable business that will lead to the construction and operation of nuclear power stations.

If the way of engaging in work put forward by the Management Model permeates through, and is embodied by, each and every site worker, the way that we engage in our duties will not change even if a consortium is formed. We are still in the preparatory stages for construction, but we aim to achieve the “ideal state that meets the world's highest standards” as put forth in the Management Model as we engage in our daily duties.



Kashiwazaki-Kariwa

Becoming a power station where each and every person understands how they should behave and is proactive



Corporate Officer, Nuclear Power & Plant Siting Division
Kashiwazaki-Kariwa Nuclear Power Station Site
Superintendent/Niigata Headquarters

Takeo Ishii

Personnel are showing eagerness to learn and share information with those outside of their department

I have been deeply involved with the Operations Division since I joined the company and even served as shift supervisor. I was also involved in drafting the Management Model. This alone makes me greatly devoted to the Management Model which clearly promotes the concept of “operations-focused.” The Management Model has clarified what the entire power station and what people in each field are aiming for. On the other hand, retaining as many English terms as possible in order to maintain a common

international language has made it difficult for the Management Model to permeate through the organization and be understood.

Prior to creation of the model it was common for each power station to independently create work mechanisms and implement improvements. However, after creation of the model, our “ideal state” was clarified and we began to energetically share information and best practices with other power stations through peer activities and benchmarking. In particular, I think emergency response competitions between the power stations, sharing information between the power stations, and creating a mechanism for managing integrated risks, are examples of best practices.

Personnel are motivated more than ever to learn on their own and improve their own weaknesses, which has led to improvements to the foundations of our entire organization, including Headquarters.

Aiming to further improve leadership and teamwork

A good company is one in which each and every employee fully understands what they need to do and can continue to act on their own to achieve objectives without being directed to do so by their supervisors. In the United States, this is referred to as an, “engaged workforce.” Good leadership and teamwork is necessary to achieve this. People in management positions need to show strong leadership, and departments and individuals need to value good, interdepartmental teamwork. And, since the world’s highest standards change on a daily basis, we need to continue to improve and aim higher. This will enable us to become a, “nuclear operator that continues to produce unparalleled levels of safety,” which is the vision of the

Management Model put forth in light of our regrets about the Fukushima Nuclear Accident.

Helping the Management Model to further permeate through the organization through revisions

I think managers and all people that understand the Management Model and are actually using it understand the merits of it. However, the fact that it has not fully permeated amongst younger workers on the front lines is an issue. The Management Model was revised in July this year and this is an opportunity for younger workers to deepen their understanding of it and just start using it. I aim to be upfront and lead activities to enable the Management Model to permeate through the organization.

TEPCO employees are very good at creating plans and measures to achieve a certain result, and they are very good at keeping with their plans. However, I think they can be consistent to a fault at times, and are a little weak when it comes to assessing achievements and making further improvements. In order to be become a company that is independent and always aims higher, everyone needs to fully understand the organization and their duties, and be engaged in thinking about what activities are necessary to achieve those goals. The Management Model is what serves as a signpost along the road to success. I hope that it is widely used.



Kashiwazaki-Kariwa

Power station personnel talk about “changes in the way they work”

The concept of operations-focused is permeating throughout the field

I've been an operator for the 30 years since I joined the company and I was a shift supervisor when the Management Model was created, but after that I took a different position. As stipulated in the Management Model, the concept of operations-focused refers to having the, “Operations Management Department be engaged in various activities that have an impact on plant operations and having all station personnel play the role of supporting efficient operation at the world's highest levels of safety in each of their positions.” In my current position as a group manager in the Power Generation Division, I'm leveraging this experience as I strive to help the concept of operations-

focused permeate throughout the organization. When this concept was introduced, experts from the US said that work improvements were needed, but I didn't know what to change. However, by pushing steadily forward I think we are now headed in the right direction. For example, when an operator discovers a nonconformance and requests repairs by the Maintenance Division, they share the common objective of fulfilling the functional requirements of that piece of equipment. By doing this, important jobs can be prioritized and spare parts acquired, etc., thereby making it easier to coordinate between operations and maintenance and enabling appropriate action to be taken.

Furthermore, there are six main control rooms at Kashiwazaki-Kariwa and a total of 36 shift supervisors. Through simulator training observation and coaching we are

getting all shift supervisors to think and behave the same way.

I currently work in the main administration building, but I will continue to help the concept of operations-focused to permeate through the organization from the perspective of a shift supervisor.



Power Generation (Units 1/2) Group Manager,
Operation Management Department Units 1-4

Koji Kumamimi

Deepening understanding by participating in in-house work.

When I took on my current position it seemed like the Management Model was going to be difficult to put into use after it was introduced because of the multitude of the new terms. But now that it has permeated throughout the organization, the way in which we work has changed. For example, risk management in the past used to consist of individualistic decisions based on one's own experience. However, now all risks are made visual in the same manner in accordance with a common base, which is the Management Model, and information on those risks are shared in a timely manner with power station upper management thereby enabling us to move safely and efficiently forward with power station projects. When it came to communicating with operations as well, in the past it was felt that this was mainly the job of maintenance, which has a large number of personnel, however now maintenance is viewed as a division that directly supports operations.

When I joined the company, field work was left up to contractors and company employees would rarely directly touch equipment. But now, the way we think and behave has changed completely in accordance with the basic concept of the Management Model to, "promote in-house work where we are looking, listening, and interacting with equipment on our own." I feel that our understanding of what is actually going on in the field has deepened dramatically through interacting with equipment ourselves.

Also, since the Maintenance Division works in cooperation with contractors, I go into the field whenever I have time to talk to contractors about what it is that TEPCO is seeking to achieve as I strive to fill in discrepancies in awareness.

More than half the people in my group have never worked on a power station in operation. But, we will continue to think about new ways to engage in their duties and work together to ensure that we are safer today than we were yesterday, and will be safer tomorrow than we are today.



Reactor (Units 2/3) Group Manager, Maintenance Department Units 1-4

Hisashi Takemoto

The opinions of nuclear experts from the United States

We spoke with two experts who have a plethora of experience working at nuclear power stations in the United States and who aided us during the creation and introduction of the Management Model.



Continue to improve and make that part of corporate culture

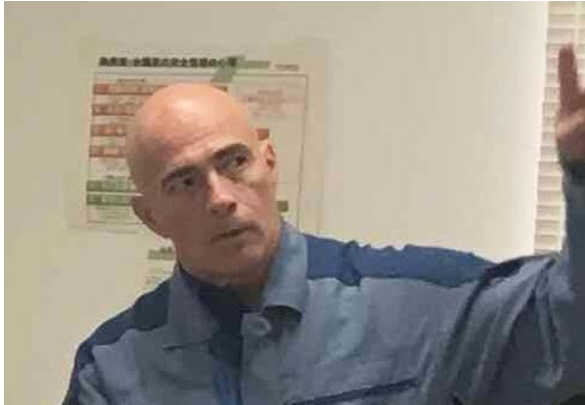
Mr. Roy Harter

I've been with TEPCO as it has risen from the ashes and continually striven to improve safety and make improvements. I consider this time I've spent with you to be more valuable than the time I spent working in the US nuclear industry.

The Management Model is a tool that the world's nuclear operators recommend using. Compared to the management models of other nuclear operators in the world, TEPCO's model, which was created by analyzing gaps between the world's highest levels of safety and its own activities, and developing measures to fill in those gaps, is extremely comprehensive and covers all areas that need to be addressed by a nuclear operator.

TEPCO is on the verge of becoming an organization where anyone, regardless of position or title, can promote improvements. In order to aim for higher world standards, it is necessary that all employees, from upper management to department members, create a corporate culture in which everyone repeatedly turns a strict eye to their own behavior and power station equipment risks, is self-aware of the responsibility for preventing accidents and troubles before they happen, and identifies their own weaknesses and makes improvements.

I hope that you will continue to move forward, refrain from becoming content, and engage in your duties with enthusiasm.



perseverance and diligence are the seeds of further improvement

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Mr. Mike Wayland

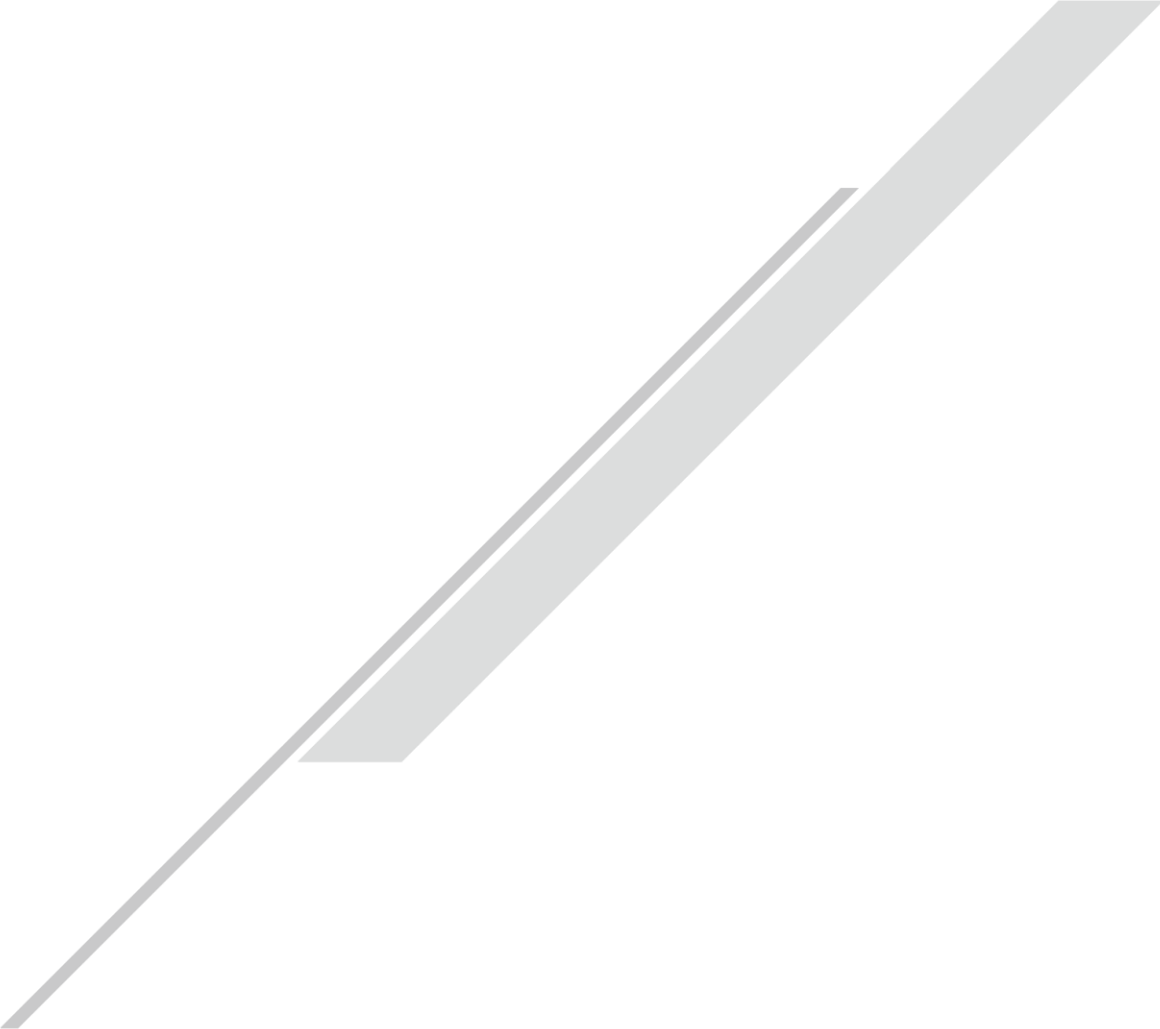
Everyone that works in the nuclear power industry has the responsibility to maintain nuclear safety and continually heighten world standards, or in other words, recognize the signs of accidents and troubles and prevent them from happening thereby fulfilling our responsibility to keep power stations accident and disaster-free. And, it is necessary that we engage in our daily activities whilst never forgetting that we must relentlessly persevere to achieve these goals.

Those of us that work in the nuclear power industry are held to a higher standard of performance than other industries and you must not forget that errors must be kept to an absolute minimum.

Rooting behaviors based on the Fundamentals, and striving to improve quality through careful observation and coaching is done not only to benefit ourselves, but also to benefit society. And, in order to become an operator on par with world leaders, this way of thinking and this behavior must be rooted in the contractors that work along with TEPCO, and must be continually improved.

It is demanded of you that you remain devoted, highly ethical, and pursue continual improvement. Your perseverance and diligence are the seeds of further improvement. Keep up the good work!

Progress Report





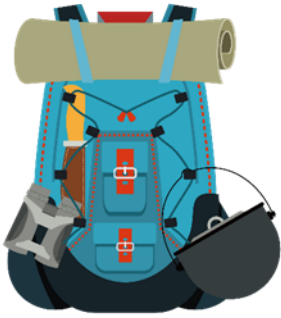
Safety Awareness



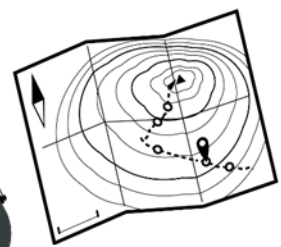
Technological Capability



Ability to Promote Dialogue



Business Plan



Management Model
Decommissioning Strategy
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Nuclear Safety Reform Plan Progress Overview

Progress with Safety Measures at Power Stations

■ Fukushima Daiichi

1
● A remotely operated submersible robot was used for the first time to perform an investigation of the Unit 2 spent fuel pool (June 10~11). The submersible robot was used to check the condition of the fuel, the upper portion of the fuel rack, the pool gate, and the skimmer surge tank entry. The investigation did not reveal any conditions that will hinder fuel removal. Furthermore, prior to the investigation, training on the operation of the submersible robot was conducted at the Fukushima Robot Test Field in a simulated work environment so as to examine investigation procedures and also improve the remote operations capabilities of TEPCO employees (May 13~15). The footage taken during the investigation shall be examined carefully and used to improve the design of fuel handling machines thereby enabling us to steadily move forward with preparations to begin fuel removal between FY2024 and FY2026.



Investigation using submersible robots



Fuel and upper portion of the fuel rack

■ Fukushima Daini

In accordance with the Nuclear Reactor Regulation Law, we have submitted our plan to decommission the Fukushima Daini Nuclear Power Station to the Nuclear Regulation Authority for authorization (May 29). Prior to this we submitted a request to Naraha Town and Tomioka Town in Fukushima Prefecture to approve our decision to decommission the power station in accordance with the Agreement on Ensuring the Safety of the Surrounding Communities when Decommissioning the Fukushima Daini Nuclear Power Station. Going forward, we shall suitably respond to the Nuclear

Regulation Authority's review of our plan as we move ahead with the decommissioning of Fukushima Daini while ensuring that safety is our first priority.

■ Kashiwazaki-Kariwa

There are 872 fuel assemblies, including new fuel, stored in the Unit 7 spent fuel pool. In the past we have found pinholes in the cladding tubes of fuel rods that we assume were caused by foreign material allowed to enter the reactor (fragments of the wire brushes used to clean pipes, etc.). In order to make every effort to prevent this from happening again, we turned our attention to the fuel assemblies to be used during the next cycle and cleaned 166 fuel assemblies that have been used in the past for which we believe there is a high possibility of foreign material contamination. In order to clean the fuel assemblies, we installed a cleaning device inside the spent fuel pool that uses injected air bubbles to clean foreign material from the fuel assemblies. As a result of the cleaning we were able to recover minuscule contaminants, such as objects that we assume are fragments of wire brushes, thereby reducing risks that could impact the integrity of fuel. Going forward we shall enhance our foreign material exclusion measures as we continue to leverage past operating experience to reduce risks.



Fuel cleaning (Unit 7)



Fuel cleaning using air bubbles

Progress Report (Management)

■ Management Model revisions

The Management Model stipulates the basic policies for activities engaged in by the Nuclear Power & Plant Siting Division as well as methods for carrying out tasks in order to achieve objectives. This Management Model has been revised to reflect

changing conditions and changes to our environment. When engaging in these revisions our motivation for creating a Management Model that reflects our regrets about, and the lessons we have learned from, the Fukushima Nuclear Accident, as well as our underlying objective of achieving the world's highest levels of safety, have remained unchanged. We have also emphasized the importance of engaging in strict self-assessments to achieve our objectives and make continual improvements. We view these revisions as an opportunity to further develop the Management Model and help it to permeate throughout the organization from the second quarter onward. In particular, we need to promote understanding and use of the Management Model among younger employees and have therefore targeted activities aimed at developing and promoting the use of the Management Model amongst this group in order to pass down nuclear safety reforms to the next generation.

■ Nuclear Power Division initiatives to help prevent the spread of Covid-19 【Risk Management】

Since February 17, all Group companies have been enhancing measures to counteract the risks associated with the spread of Covid-19. In the Nuclear Power Division, we have focused on measures to prevent infection of power station operators, who play an important role in ensuring nuclear safety, and restricted access to the main control rooms. However, in light of the infection of some employees working at Kashiwazaki-Kariwa, we have introduced additional measures in the form of requesting employees to refrain from traveling in and out of the prefecture and also ascertaining the travel history of employees at Kashiwazaki-Kariwa and the Niigata Headquarters. Furthermore, in order to minimize contact between workers at the site, we have temporarily suspended approximately 80% of construction. As a result of implementing these thorough measures to prevent the spread of the virus, we have not seen any new infections in the Nuclear Power Division since May. All TEPCO employees, Group company employees, and contractors are working together to eliminate any concerns that regional residents have and engage in measures to prevent the spread of Covid-19.

■ Results of the Preparedness Training Assessment Conducted by the Nuclear Regulation Authority 【Responding to Emergencies】

In regards to our emergency response capability, we are continually improving how we respond to disasters by leveraging the latest information and knowledge, such as training assessment results, based on the important success factors noted in the Management Model. Fukushima Daiichi was able to receive an A assessment in all 10 categories of the FY2019 operator preparedness training assessment conducted

by the Nuclear Regulation Authority (announced on July 28). Fukushima Daini and Kashiwazaki-Kariwa received A assessments for nine categories. At Kashiwazaki-Kariwa, we selected personnel that were not part of the team that received A assessments for all categories in FY2018 and subjected them to repetitive training in an effort to increase the number of experts in each position. At the same time, we examined the ability to quickly and accurately report emergency situations amidst conditions where multiple emergency action levels have been issued over a short period of time by simulating simultaneous serious accidents at Units 6 and 7, which are in operation, in order to improve our ability to respond to emergencies. Results showed that there are still issues that need to be improved in regards to sharing information with the Nuclear Regulation Agency. Going forward, we shall repeatedly implement training using various scenarios in order to make new improvements thereby improving our ability to respond to emergencies and providing peace of mind to the members of the community.



Covid-19 prevention measures (access restrictions)



Emergency response training (Kashiwazaki-Kariwa)

■ Monitoring by the Nuclear Safety Oversight Office 【Performance Monitoring】

During the first quarter, The Nuclear Safety Oversight Office (NSOO), which is an independent internal oversight body, faced many restrictions to power station monitoring due to the measures implemented to prevent the spread of Covid-19. Due to circumstances, the NSOO reviewed power station daily reports, information about past nonconformances, and documents produced by the power station in addition to implementing indirect interviews using various means of communication, to confirm that there are no serious issues related to power station management from the perspective of nuclear safety. Going forward, the NSOO shall review actual conditions in the field and give recommendations for the first half of the year.

1 Progress with Safety Measures at Power Stations

1.1 Decommissioning Progress

During the Cabinet Meeting on Decommissioning and Contaminated Water Countermeasures (fourth meeting) held on December 27, 2019, the decision was made to revise the Fukushima Daiichi Mid/Long-Term Roadmap and a plan to “optimize all decommissioning work” was put forth after closely reviewing the decommissioning process. Furthermore, in order to achieve the objectives put forth in the Mid/Long-Term Roadmap and the Nuclear Regulation Authority’s risk map, a “Mid/Long-Term Decommissioning Implementation Plan 2020” was created to show the “major decommissioning work processes through 2031.” Based on our underlying principle of “balancing recovery with decommissioning,” we shall convey our future outlook for decommissioning carefully and in an easy-to-understand manner with the awareness that we need to proceed while gaining the understanding of the surrounding communities and society as a whole. On April 1, we also engaged in departmental reorganization in order to focus personnel assignments on Fukushima Daiichi so that we may pay more attention to further enhancing project management functions and safety/quality, and also move safely and steadily forward with decommissioning while ascertaining conditions in the field and the condition of actual pieces of equipment.

3



(1) Fuel Debris Removal

■ Unit 1

We are currently in the process of securing an access route to the primary containment vessel in order to conduct an internal investigation. During the fourth quarter, we cut away obstructions inside the primary containment vessel and finished cutting away the railings (June 4). In addition to the railings, there are other obstructions, such as grating and electric wire conduits, etc., that will also be gradually cut away. Objects to be cut are cleaned in advance to prevent the production of dust when cutting in order to prioritize safety as we aim to commence the internal investigation during the second half of FY2020.

(2) Removing fuel from the spent fuel pool

■ Unit 1

In order to remove fuel from the spent fuel we must first remove rubble, such as collapsed girders. In order to reduce the risk of affecting the integrity of fuel stored in the spent fuel pool in the event that rubble was to fall inside the pool, we have installed a cover bag over the surface of the pool water. In order to avoid obstructions above the surface of the water when installing the cover bag, we needed to reduce the water level of the pool by approximately 50cm, so the spent fuel pool circulated cooling system was shut down (May 29) and a drainage pump was used to lower the water level (June 2). During installation, the cover bag was placed rolled up on the east side of the operating floor and then unrolled over the top of the water of the spent fuel pool after which it was filled with air. Air mortar, which solidifies into light, rock-like objects, was then injected to achieve the right amount of strength and buoyancy (June 11). After that, the water level in the spent fuel pool was restored and the circulated cooling system was restarted thereby concluding cover bag installation (June 18).



Cover bag after being unrolled (June 8)



After filling with air mortar (June 11)

■ Unit 2

High radiation levels on the operating floor in the Unit 2 reactor building have made it difficult to access and have prevented us thus far from conducting an investigation of the inside of the spent fuel pool. We have gradually removed objects remaining on the operating floor and are now able to access the area around the pool, so we used a submersible remote operated vehicle (ROV) in order to conduct our first investigation of the spent fuel pool on June 10 and 11. Prior to the investigation, training on the operation of the ROV using a mockup of the work environment was

conducted at the Fukushima Robot Test Field (May 13~15) in order to confirm work procedures and improve the remote operation skills of TEPCO employees. The submersible ROV was used to check the condition of fuel, the area by the fuel rack, the pool gate, and the skimmer surge tank entry. The investigation did not reveal any conditions that will hinder fuel removal. The footage obtained during the investigation will be carefully analyzed and reflected in the design of fuel handling equipment as we steadily move forward with the intention of commencing fuel removal between FY2024 and FY2026.



Investigation using submersible ROV



Fuel and top of fuel rack

■ Unit 3

514 spent fuel assemblies and 52 new fuel assemblies (total: 566 assemblies) are being stored in the Unit 3 spent fuel pool from which the removal of new fuel commenced during the first quarter. During FY2019 we succeeded in removing a total of 67 spent fuel assemblies. During the first quarter, we conducted legally required inspections of the crane and fuel handling machine, and also replaced the common pool rack, which required a temporary suspension of fuel removal and rubble removal work. The inspections have concluded (May 23) so fuel removal was recommenced on May 26. To date we have found 16 fuel assemblies with handle deformations and hoisting tests on 10 assemblies revealed that three fuel assemblies cannot be hoisted within the load range that has been previously set. Going forward we shall examine detailed methods of handling this issue upon examining the conditions by which the fuel is being kept in place and conduct hoisting tests of the remaining fuel assemblies. We will continue to move forward while prioritizing safety and monitoring the concentration of dust in the surrounding environment with the intention of completing fuel removal by the end of FY2020.

(3) Contaminated Water Countermeasures

We continue to implement countermeasures to prevent contaminated water from

leaking into the power station harbor and also prevent leaks of contaminated water from storage tanks based on the three basic principles of isolating groundwater from contamination sources; preventing contaminated water leakage; and, removing contaminated water.

■ Unit 3 Turbine Building Roof Rain Water Countermeasures

In order to suppress the amount of contaminated water being generated, we have implemented roof rainwater countermeasures, such as sealing the holes in the roofs of buildings to prevent rainwater from entering. We have been removing rubble from the top of the Unit 3 turbine buildings since July 2019, and have removed approximately 98% of this rubble. Rainwater countermeasures in the form of the installation of dikes to prevent water from flowing into areas where the roof is damaged began on May 18. Going forward we shall cover the damaged areas of the roof (approximately 1000m²) with tarps and apply waterproof paint as we aim to complete these countermeasures by around September 2020. As always, we shall prioritize safety while moving forward with this task.



Rooftop of the Unit 3 turbine building



Roof of the Unit 3/4 additional service building

(4) Unit 1/2 Exhaust Stack Dismantling

Since part of the steel tower that supports the Unit 1/2 exhaust stack was found to be damaged, we devised a plan to cut the upper portion of the exhaust stack (approximately 60m) into 23 blocks and dismantle it in order to meet seismic-resistance tolerances. Since the second quarter of FY2019, we have been working in cooperation with a local company Able Co., Ltd. to dismantle the top of the exhaust stack using remotely operated equipment. During the first quarter, we completed dismantling of the 23rd and final block (April 29). Furthermore, in order to prevent the influx of rain water, we placed a lid on top of the remaining section of the exhaust stack that rises 59 m above the ground thereby concluding the series



of dismantling tasks (May 1). The dismantling of the Unit 1/2 exhaust stack was a history-making event, marking the first time in the world that anyone had tried to dismantle a 120m exhaust stack using remotely operated equipment. When troubles occurred, TEPCO worked in cooperation with Able. Co., Ltd. to examine countermeasures, reflect upon the work that had been done, and find a solution. The knowledge that was obtained this project will be leveraged as we move forward with decommissioning.



Exhaust stack prior to dismantling (July 2019)



Exhaust stack after dismantling (May 2020)

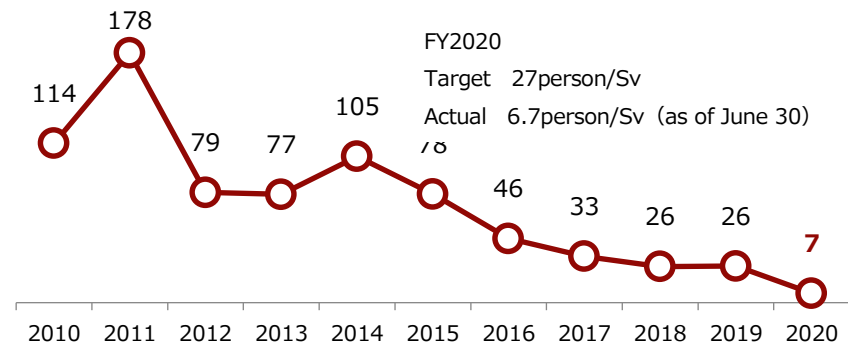
(5) Whole-body counter impropriety

At the power station, a whole-body counter located on the first floor of the large rest area is used by workers to periodically check for ingested radioactive substances. Unfortunately, it was discovered on February 19 that a contract worker had been using another worker's access badge when getting measured. Whole-body counters are used to assess the internal exposure of workers engaged in radiation work by externally measuring radioactive substances inside the body, and measurements are taken once every three months. In light of this incident, since February 20 the whole-body counter operator in the measurement room is now required to check the identification of workers being assessed and an investigation was opened to determine whether or not similar improprieties have occurred since 24-hour self-measurements in the measurement room have been allowed since April 2016. The investigation revealed 30 cases of similar improprieties. Furthermore, the director of the Tomioka Labor Office has instructed that we

construct a system for analyzing the cause of these proprieties and suitably managing the exposure of workers (May 1). The results of our investigation and recurrence prevention measures were compiled and reported (May 25). This incident in which a worker used the radiation control zone access badge of another worker to take whole-body counter measurements is a very serious problem that affects the integrity of exposure management. In addition to requiring whole-body counter operators to verify the identities of workers being assessed, we shall also strive to thoroughly implement recurrence prevention measures by making contractors aware of this issue and providing guidance to main contractors.

(6) Initiatives aimed at reducing exposure

At Fukushima Daiichi, we are examining countermeasures to reduce exposure from an engineering perspective upon estimating during the planning stages the degree of exposure that will be experienced during various tasks, and assessing the increases or decreases in exposure risk in accordance with the Mid/Long-Term Roadmap. Furthermore, during the work implementation stage, remote monitoring systems are being used (March 2019) as a means for strengthening the management of high-dose work, etc. During the first quarter, remote monitoring systems were newly used when implementing radiation surveys of the first floor of the Unit 3 reactor building thereby bringing the total number of projects for which remote monitoring systems have been used since March 2019 to nine. Since these systems can monitor worker exposure doses and work area dose rates in real time, they enable work orders and high-dose area evacuation orders to be given remotely thereby serving as an effective tool for reducing exposure. We will continue to proactively use these systems inside the reactor buildings and for high-dose work projects in the vicinity.



Trends in total group dose by fiscal year

1.2 Progress at Kashiwazaki-Kariwa, Fukushima

Daini and Aomori

1.2.1 Progress with Safety Measures (Kashiwazaki-Kariwa)

(1) Progress with Safety Measures

At Kashiwazaki-Kariwa, permission to modify the reactor installation permits for Units 6 and 7 was received from the Nuclear Regulation Authority on December 27, 2017 after which we established a basic design plan. Since then, we have moved forward with safety measure renovations and the detailed design of various pieces of equipment at primarily Units 6 and 7 based on lessons we learned during the Fukushima Nuclear Accident and in accordance with this plan.

The progress we have made with safety measures during the first quarter can be seen in the chart on page 8.

(2) Unit 7 Fuel Assembly Cleaning

During the operation of Unit 7 we have encountered various incidents (fuel leaks) to date of pinholes forming in the cladding tubes of fuel rods which we assume have been caused by long-term contact with foreign material[※] that has found its way inside the reactor. In order to prevent this from happening as much as possible, 166 fuel assemblies that were used several cycles ago, and are part of the 872 fuel assemblies that are planned to be used during the next cycle, were cleaned. During cleaning, the fuel assemblies are attached to a device that has been installed inside the spent fuel pool and air bubbles are injected from the bottom to remove foreign contaminants. Since May 2020, we have been making preparations for this task by installing cleaning equipment and conducting operations training on such equipment. 166 fuel assemblies were cleaned between June 1 and June 22. When strainers and foreign material recovery filters were checked under water, we found small contaminants that are assumed to be pieces of wire brushes therefore leading us to believe that we have reduced the risk of fuel leaks.

Going forward we will continue to strengthen foreign material exclusion measures.

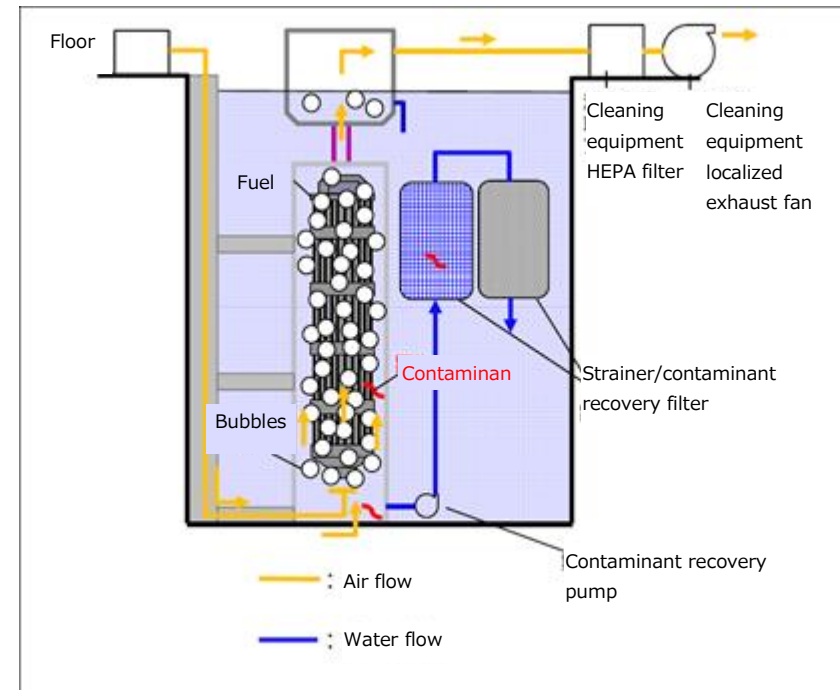
※ Pieces of wire brushes used in the past to clean pipes.



Cleaning underway



Using air bubbles to clean fuel assemblies



Cleaning equipment diagram

(3) Safety Regulation Modification Permit

In order to reflect changes that have occurred in conjunction with revisions to the Nuclear Reactor Regulation Law, which was prompted by introduction of the new inspection system, we submitted an application to the Nuclear Regulation Authority (NRA) to receive permission to modify the safety regulations for Kashiwazaki-Kariwa (February 27). After that we submitted two more revised applications (May 1, May 25) and received permission from the NRA on May 26.

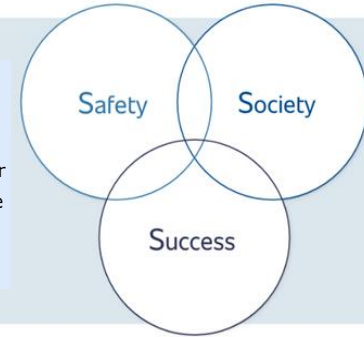
(4) Debate by the Niigata Prefecture Technology Committee over Containment Vessel Rupture Prevention Measures

At the June 5 meeting of the Technical Committee on Safety Management at Niigata Prefecture Nuclear Power Stations, explanations were given about the reason for installing a substitute circulated cooling system and countermeasures to prevent liquefaction under above-ground filter vents as part of a discussion on containment vessel rupture prevention measures. When the application for permission to modify the installation permits for above five ground filter vents was submitted, the Governor of Niigata Prefecture at the time expressed concern over the fact that measures to prevent uneven subsidence of the ground under above-ground filter vents were not sufficiently incorporated into basic designs. Therefore, while the application was under review, we suggested employing a substitute circulated cooling system and changed the application to reflect a combination of a substitute circulated cooling system with above-ground filter vents after which we received an installation modification permit in December 2017. During the committee meeting, we received questions and opinions about countermeasures for negative pressure created in the containment vessel during venting. We will continue to cooperate fully with the three accident reviews being conducted by Niigata Prefecture.

(5) Establishment of a Joint Venture to Handle Unit 6 Safety Renovations

On June 17, 2020, the Tokyo Electric Power Company Holdings, Inc. and Toshiba Energy Systems & Solutions Corporation established the KK6 Safety Measures Joint Venture Corporation (KS6) to handle safety measure renovations at Kashiwazaki-Kariwa Unit 6. With an electric company and a plant manufacturer transcending industry barriers to share technical skill and knowledge in order to manage, design, and supervise construction on safety renovation projects the two companies will complement each other to maximize synergy in an effort to improve safety and quality as we move forward with safety measures while referencing our successes at Unit 7.

The KK6 Safety Measures Joint Venture Corporation uses the abbreviation KS6 to refer to the company. The "K" stands for Kashiwazaki-Kariwa and the "6" stands for "Unit 6." The "S" stands for the three core values of this new company, "Safety," "Society," and "Success."



KS6 website <https://www.ks6.co.jp/>

1.2.2 Safety Measure Renovation and Decommissioning Progress (Fukushima Daini)

(1) Submission of Request for Authorization of the Fukushima Daini Decommissioning Plan and Prior Understanding

Since the decision was made in July 2019 to decommission all reactors at Fukushima Daini, TEPCO created a decommissioning plan and submitted it to the Nuclear Regulation Authority for approval on May 29, 2020 in accordance with the Nuclear Reactor Regulation Law.

Prior to this, but on the same day, TEPCO submitted a request to Fukushima Prefecture, Naraha Town and Tomioka Town for prior understanding about the decommissioning of Fukushima Daini in accordance with Clause 3 (Prior Understanding about Newly Built or Added Facilities) of the Agreement on Ensuring the Safety of the Surrounding Region During the Decommissioning of the Fukushima Daini Nuclear Power Station. According to the decommissioning plan, it is expected to take 44 years to completely decommission all four reactors and the entire process has been split into four stages. The plan states that all spent fuel shall be transported to the reprocessing facility and handed over to the reprocessing operator until decommissioning has been completed. At Fukushima Daini we are moving forward with preparations such as the submission of safety regulations for decommissioning. Going forward we shall fully cooperate with inspections conducted by the Nuclear Regulation Authority and engage in the decommissioning of Fukushima Daini while prioritizing safety.

Attached Chart: Status of Progress with Safety Measure Renovations at Kashiwazaki-Kariwa (A ※ marks measures independently implemented by TEPCO)

Safety Measures		Unit 6	Unit 7
Preparations for tsunami and internal inundation	Tidal wall (seawall) construction	Completed	
	Installation of tidal walls for buildings (including flood barrier panels)	No openings below 15m above sea level	
	Installation of water-tight doors in reactor building, etc.	Completed	Completed
	Installation of tidal walls at switchyards ※	Completed	
	Installation of tsunami monitoring cameras	Completed	
	Improving the reliability of flooding prevention measures (interior flooding measures)	Underway	Underway
	Dyke construction	Completed	Completed
	Installation of permanent bilge pumps in rooms housing important equipment	Completed	Completed
Preparations for power loss [Augmenting power sources]	Additional deployment of air-cooled gas turbine power supply cars	Underway	Underway
	Installation of emergency high voltage distribution panels	Completed	
	Laying of permanent cables from emergency high-voltage distribution panels to reactor buildings	Completed	Completed
	Preparation of substitute DC power sources (batteries, etc.)	Completed	Completed
	Reinforcement of transmission tower foundations ※ and strengthening of the seismic resistance of switchyard equipment ※	Completed	
Preparing for	Preparation of large volume water pump trucks and installation of	Completed	Completed

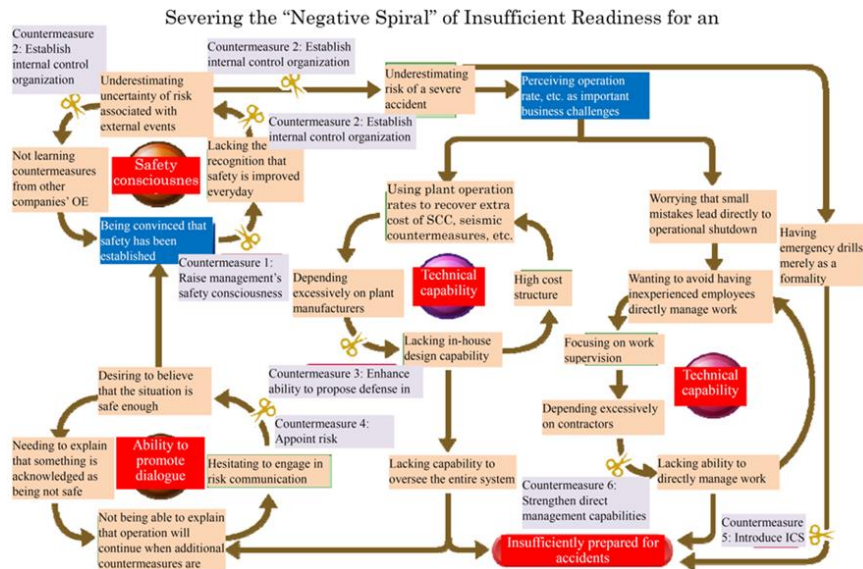
Safety Measures		Unit 6	Unit 7
damage to the reactor core or spent fuel [Augmenting heat removal and cooling functions]	substitute seawater heat exchanger equipment		
	Installation of high-pressure substitute water injection systems	Underway	Underway
	Building of water sources (reservoirs)	Completed	
	Enhancement of the seismic resistance of pure water tanks on the Oominato side ※	Completed	
Preparing for damage to the primary containment vessel or the reactor building [Measures to prevent damage to the PCV and hydrogen explosions]	Installation of filtered venting equipment (aboveground)	Underway	Underway
	Installation of filtered venting equipment (below ground)	Underway	Underway
	Installation of substitute circulation cooling system	Underway	Underway
	Installation of equipment for keeping the top of the PCV filled with water ※	Completed	Completed
	Installation of H2 control and hydrogen detection equipment in reactor buildings	Completed	Completed
	Installation of top vents in reactor buildings ※	Completed	Completed
	Installation of corium shields	Completed	Completed
Preventing the dispersion of radioactive materials	Deployment of large volume water dispersion equipment	Completed	
Preparing for	Construction of fire belts	Underway	
	Installation of fire detectors in parking	Completed	

Safety Measures		Unit 6	Unit 7
fires [Countermeasures for external and internal fires]	lots on high ground		
	Installation of fire detectors in buildings	Underway	Underway
	Installation of fixed firefighting systems	Underway	Underway
	Installation of cable wrappings	Underway	Underway
	Construction of fire-resistant barriers	Underway	Underway
Addressing external hazards	Countermeasures for building openings	Underway	Underway
	Removal of objects that could turn into flying debris as a result of a tornado	Underway	Underway
	Installation of spare bug filter for ventilation and air conditioning systems	Completed	Completed
Improvements to Main Control Room environments	Measures to reduce operator exposure in the event of a severe accident	Underway	
Strengthening emergency response	Construction and reinforcement of multiple access routes	Underway	
	Enhancement of communications equipment (installation of satellite	Completed	

Safety Measures		Unit 6	Unit 7
	phones, etc.)		
	Enhancement of environment monitoring equipment/additional deployment of monitoring cars	Completed	
	Construction of emergency materials and equipment warehouse on high ground*	Completed	
	Construction of Emergency Response Center in Unit 5	Underway	
	Strengthening seismic resistance (including ground improvement measures to prevent liquefaction)	Seismic resistance assessment/renovations of outside equipment and piping	Underway
	Seismic resistance assessment/renovations of indoor equipment and piping	Underway	Underway

2 Nuclear Safety Reform Plan Progress

In addition to the six measures for stopping the “negative spiral” that has exasperated structural issues faced by the Nuclear Power Division implemented based upon the Nuclear Safety Reform Plan announced in March 2013, TEPCO is engaged in initiatives to strengthen governance and develop internal communication after these areas were identified as needing further improvement.



As an initiative to strengthen governance, the FDEC has created a Decommissioning Promotion Strategy (September 2016, revised annually) and a 1F Decommissioning Management Model (February 2020). And, in the Nuclear Power & Plant Siting Division, all duties are being carried out in accordance with the Nuclear Power Division Management Model, which was created in June 2017. In combination with these management models and the Decommissioning Promotion Strategy, the Nuclear Safety Reform Plan Progress Report gives updates on initiatives that focus on “Better Aligning the Vectors of the Organization (Strengthening Governance),” as well as “safety awareness,” “the ability to promote dialogue,” and “technological capability,” which are the main values of the Decommissioning Management Model

and the Nuclear Power & Plant Siting Division Management Model.

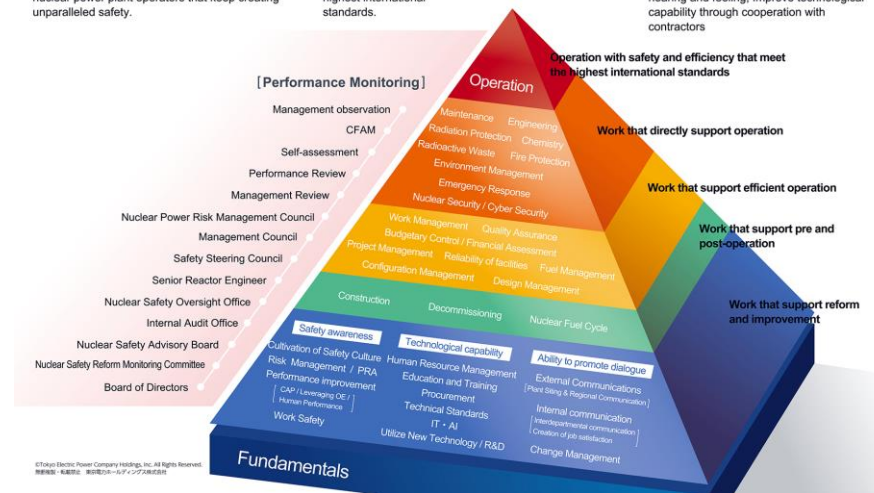
2.1 Aligning the Vectors of All Divisions

Vision : 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.

Mission : To achieve nuclear power generation with safety and efficiency that meet the highest international standards.

Values : Safety awareness, Technological capability, Ability to promote dialogue

Basic policy to achieve goals : Constant reforms and improvements, Promotion of work under direct management by seeing, hearing and feeling, Improve technological capability through cooperation with contractors



2.1.1 Strengthening Governance

(1) Permeation of the Management Model

The Management Model was created to enable all employees in the Nuclear Power & Plant Siting Division to engage in their duties with a common understanding of the objectives of the division and each other's roles (June 2017). During FY2020 we will continue to engage in activities that aim for excellence upon creating business plans based on the Management Model.

- Developing the Management Model and enabling it to permeate throughout the organization

We have revised the Management Model, which stipulates our basic policies for Nuclear Power & Plant Siting Division activities and how to move forward with

projects in order to achieve our objectives, in accordance with changing conditions and environmental changes. When making these revisions we did not make any changes to the motivation for creating the Management Model, which is to reflect the regrets and lessons learned from the Fukushima Nuclear Accident, nor to our main objective of pursuing the world's highest levels of safety. And, we emphasized that conducting strict self-assessments, and making continual improvements through the self-assessments, are vital for achieving our objectives.

We are viewing this revision as an opportunity to further develop the Management Model and enable it to further permeate throughout the organization from the second quarter. Results of internal questionnaires about the level of understanding of the Management Model suggested that we need to promote understanding and the use of the Management Model amongst younger employees. We will therefore engage in development/permeation activities that target this section of our company.

■ Improvement activities by CFAM/SAFM

CFAMs and SFAMs (Corporate Functional Area Manager/Site Functional Area Manager) have been assigned to each field of the Management Model to ascertain excellence achieved domestically and in other countries, identify key issues to be resolved, and formulate and implement improvements. Progress reports are periodically given to sponsors and the General Manager of the Nuclear Power & Plant Siting Division, and activities are being furthered while receiving advice and guidance from these parties (since April 2015).

Primary area CFAMs have been assigned to Kashiwazaki-Kariwa in accordance with the president's policies/instructions to "focus on actual field conditions and actual pieces of equipment" so that they can coordinate with power station personnel to resolve field issues. The first project being undertaken consists of kaizen to better manage temporarily installed field equipment that has the potential to impact safety in the event of a fire, flood, or earthquake, etc., (minimize the quantity of temporarily-installed equipment and optimize management), and CFAM are working as one with the power station as they engage in this project. Going forward we shall create and develop kaizen projects in accordance with field issues as we solve these issues with the power station.

Furthermore, in order to ascertain gaps between excellence and one's own field, CFAM in each field engaged in gap analysis in order to propose measures for eliminating these gaps and reflect them in activity plans for the next fiscal year. When performing this analysis, CFAM comprehensively examined trends within and outside the company, and areas for improvement, etc., while also reflecting upon

the status of development of educational programs in their own fields and the progress with countermeasures. The analysis results will be used to create action plans for reaching the place we want to be in one and three years from now, and to manage FY2020 business plans, and CFAM action plans. Going forward, action plan progress and efficiency shall be reviewed through CFAM activity reports.

(2) Permeation of the Decommissioning Promotion Strategy

The Fukushima Daiichi Decontamination & Decommissioning (D&D) Engineering Company (FDEC) is carrying out its responsibilities based on the Decommissioning Promotion Strategy (initial version issued in September 2016) that stipulates the general direction and basic policies needed to move quickly forward with decommissioning in a safe and steady manner. The content of this Decommissioning Strategy is being continually revised. In the February 2020 revision, we newly created a 1F Decommissioning Management Model and included information on our objectives and the ways we are proceeding with various initiatives started in FY2020, such as initiatives to enhance project management and safety/quality management mechanisms.

In conjunction with the release of this revised version, in-house Decommissioning Strategy Forums were held during which company management explained the major revisions that had been made to employees and exchanged opinions directly with them. During future forums we shall reflect upon the successes we have seen with the decommissioning strategy and select forum topics that are of great interest to company employees based upon responses to questionnaires.

(3) Strengthening project management and securing human resources

Since April 1, 2020, the Fukushima Daiichi Decontamination & Decommissioning Engineering Company has been reorganizing departments with a focus on better organizing supervisory and support departments, and task implementation departments. These reorganizations also focus on strengthening project management functions and safety/quality in an effort to solve issues and optimize project management. In order to strengthen project management functions, with whom responsibility and authority lies has been clarified and a Project Management Office has been established at Headquarters as a supervisory/support department in an effort to improve the skill of the entire Fukushima Daiichi Decontamination & Decommissioning Engineering Company. Furthermore, in order to improve safety and quality, we have established a Decommissioning Safety and Quality Office at Headquarters in order to provide supervision and support for the field and also

contribute to improving the safety and quality of the entire Fukushima Daiichi Decontamination & Decommissioning Engineering Company, including Headquarter departments. Within this new company structure, we are focusing on assigning personnel to Fukushima Daiichi in order to move safely and steadily forward with decommissioning while ascertaining actual field conditions and the conditions of actual equipment in the field.

Going forward we shall periodically review the effectiveness and impact that this department reorganization has had and continue to secure and train human resources that can handle new tasks that become necessary in conjunction with the progress of decommissioning, such as fuel debris analysis.

(4) Measures implemented by the Nuclear Power Division to combat Covid-19

Since February 17, all Group companies have been working together to combat risks associated with Covid-19 based upon an action plan originally designed to respond to new strains of influenza.

In the Nuclear Power Division, all employees are required to wash and sterilize their hands, take their temperatures prior to coming to work and report those temperatures, and wear masks at all times, just like the employees in all other group companies. In addition to this, the Nuclear Power Division has also implemented measures that focus in particular on preventing the spread of Covid-19 amongst power station operators who play a vital role in ensuring nuclear safety. For example, access to the main control rooms has been restricted to operators only, and operators are required to take their temperature and sterilize their hands prior to entering. In addition to these countermeasures, operators-only commuter busses have been provided, lines of travel within buildings have been demarcated, and some toilets/cafeterias have been designated for operator use only. Furthermore, teleconferencing systems are used for meetings to be attended by shift supervisors, all in an effort to prevent spread of the virus.

Furthermore, since the end of March, when the number of infected persons was quickly increasing in the Tokyo Metropolitan area, and prior to the declaration of a state of emergency, TEPCO took measures to prevent employees from traveling between the power stations and Tokyo by restricting business trips, and asking employees that live at the power station to refrain from going home on the weekends in order to prevent Covid-19 from being brought to the power stations from the Tokyo Metropolitan region. In conjunction with this, voluntary initiatives were taken to erect plastic partitions between opposing office desks in order to prevent infection from droplets, the new employee welcoming ceremony and

retreats were canceled, and the offices and living quarters for new employees assigned to power stations and personnel transferred from the Tokyo Metropolitan area have been separated from those people already working at the power station.

In April, several TEPCO employees working at the main administration building at the Kashiwazaki-Kariwa Nuclear Power Station and several TEPCO employees working at offices in Kashiwazaki City/Niigata Prefecture tested positive for Covid-19. In light of this, as part of additional countermeasures we made sure to ascertain the travel history of employees at Kashiwazaki-Kariwa and the Niigata headquarters, and strongly urged employees to refrain from traveling in and out of the prefecture. In conjunction with this, we also requested of partners and contractors that they make similar requests of their own employees. Furthermore, in order to reduce contact between workers on site, we temporarily suspended some projects and reduced fieldwork by approximately 80%. Since the middle of May we have gradually started to recommence work on these suspended projects.

As a result of these thorough Covid-19 prevention measures, no employees have tested positive for the virus since May. Going forward, all TEPCO, partner company, and contractor employees shall work as one to eliminate any concerns that community residents may have and thoroughly implement measures to prevent the spread of Covid-19.



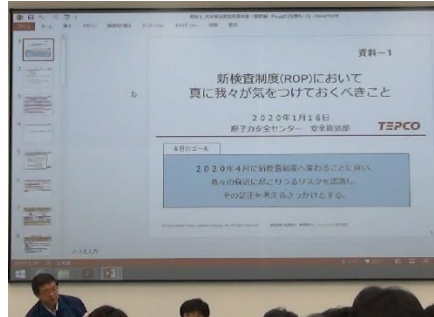
Restricting access to office spaces



Vinyl partitions set up between desks

(5) Initiatives to handle the new inspection system

The new inspection system is referred to as regulation nuclear inspections and is based on the Reactor Oversight Process (ROP), which is the inspection system used in the United States. This new system was put into use in April in accordance with revisions to the Nuclear Reactor Regulation Law. The basic principle of the system is to, “urge operators to take the initiative to continually improve safety on their own.” Inspectors from the Nuclear



Awareness reform training (Kashiwazaki-Kariwa)

Regulatory Agency review information provided by the operator and visit the field (free access) in order to comprehensively monitor operator activities. If a deterioration in the safety activities of an operator is discovered, the degree of importance as it concerns nuclear safety is assessed and guidance provided in accordance with that level of importance. Furthermore, by requiring operators to perform pre-use inspections, which up to now had been conducted by the Nuclear Regulatory Agency, the new system has further clarified the fact that operators are responsible for ensuring safety. This new system has been in trial use since October 2018, but the system will go into full use this fiscal year as stipulated by law.

At TEPCO, we will not just abide with the new inspection system, but rather identify risks through daily safety activities and preemptively implement measures to reduce risk in an effort to improve nuclear safety. For example, at Kashiwazaki-Kariwa, we are putting effort into improving nuclear safety awareness by, for example, implementing case studies to deepen understanding about the connection between nuclear safety and the duties of individuals. In particular, we have implemented awareness reform training for all engineering-related group managers and all team leaders in order to, “turn the introduction of the new inspection system into an opportunity for individuals to identify risks that could occur around them in detail and think about how to eliminate these risks.” Furthermore, each department will identify important risks discovered during the inspection process and share this information amongst group managers and team leaders that are directly involved upon which definitive action to reduce these risks shall be taken.

2.1.2 Internal Communication

(1) Activities to promote dialogue

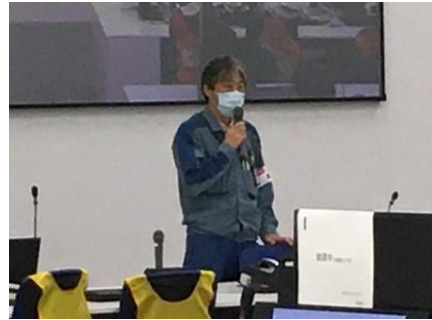
■ Promoting internal communication

As meetings are postponed or canceled in order to avoid the Three C’s and prevent the spread of Covid-19, there are concerns that a lack of communication will emerge as more and more employees work from home. In order to eliminate these concerns, we are providing manuals, online conferencing tools, and also additional equipment to set up a suitable communications environment at home in an effort to enable employees to adequately communicate online from home office environments. In addition to text-based means of communication, such as email and the intranet, we are also attempting to use chat rooms and audio tools, such as FaceTime and WebEx, etc., for briefings and meetings. At current time all major meetings are being held virtually, and we will continue to make an effort to better improve virtual internal communication.

At the beginning of the fiscal year, we held work plan briefings at power stations and construction sites in order to convey to all site employees the vision that the power station is aiming for. However, in order to prevent the spread of Covid-19, these briefings were held for each department instead of having all employees gathered together at once. Innovative measures, such as the use of FaceTime, were also employed to enable employees working from home to attend these briefings. During the briefing, the Site Superintendent directly conveyed his thoughts about the state that the power station is aiming to achieve during FY2020 and gave a detailed explanation of instructions and the expectations that power station executives have for members. Site personnel at Fukushima Daini commented that, “the briefing talked about the actual work that the group is engaged in and the thoughts of executives were conveyed thereby deepening my understanding,” and “having the briefing in a small group created an atmosphere in which it was easy to ask questions.” And, site personnel at the Kashiwazaki-Kariwa commented that, “it was great to be able to hear directly from the Site Superintendent how passionate he is about our objectives for this fiscal year, such as the recommencement of operation of Unit 7.”



Business plan briefing (Kashiwazaki-Kariwa)



Furthermore, in light of the number of daily infections and the Covid-19 prevention measures stipulated by the government, the Site Superintendent said that, “all site personnel must come together to overcome this difficulty and ensure that you don’t get infected, or infect your family or friends, and that we don’t cause any concern or inconvenience on members of the community.” In addition, the Site Superintendent instructed employees to refrain from traveling outside of the prefecture and to follow basic rules, such as mask-wearing and hand-washing. Detailed briefings were also given to contractors to enlist their cooperation.

In addition to the briefings mentioned above, at the Aomori Office and the Higashidori Construction Site, virtual group meetings attended by managers were held to directly engage in dialogue with site personnel in an effort to improve coordination and better convey intentions with department heads. Innovative measures have also been implemented to improve internal communication in accordance with the conditions at each power station and construction site, such as issuing employee introduction letters that introduce employees who have been transferred and improve opportunities for communication between site personnel that are working from home.

At the FDEC we have started the “Sunflower Project” as an initiative that aims to improve motivation and create a sense of “one team” between management and general workers. This project does not discriminate between veterans, new employees, men, or women, etc., when recruiting participants. One of the successes of the Sunflower Project has been the creation of a promotional video entitled “The Future of Fukushima Daiichi” in which the thoughts and feelings of all FDEC employees have been compiled into a single story. This video is shown on screens located in the Fukushima Daiichi main administration building and also video screens at bus stops.

Going forward we will engage in activities to help this story permeate throughout the entire FDEC.



Fukushima Daiichi New Administration Building Digital Bulletin Board)



(2) Using in-house media to share information

In-house media is being used as follows to share information within TEPCO HD and between TEPCO HD, core company employees and the Nuclear Power Division.

- Company intranet videos
 - “Working with Tohoku University! Signing Ceremony for Agreement on Cooperation” (April 6)
 - “Let’s take a virtual tour of the decommissioning site” (April 30)
 - “Kashiwazaki-Kariwa: Establishing a new company to work safer” (June 4)
- TEPCO Group News letter
 - Decommissioning Project Report #19 “What is Treated Water? What is Tritium?” (Issued in May)
 - Heading for Recovery “Our promise to the people of Fukushima to balance decommissioning with recovery” (Issued in May)
- “Messages from Management” sent via the intranet
 - “Talking about Fukushima via online lectures” (May 25)
 - “Coming together amidst a crisis” (June 9)

Going forward we will disseminate information that fulfills the desires of employees and leverages the advantages of different types of in-house media, such as videos and the group newsletter, in order to share information through an effective media mix.



Company intranet videos
 “Let’s take a virtual tour of the decommissioning site”



TEPCO News Letter
 “Our promise the people of Fukushima to balance decommissioning with recovery”

(3) Sharing information on important tasks

Since July 2016, Site Superintendents and Headquarter general managers have been sending e-mails to all members of the Nuclear Power Division about important work issues in order to share information on these matters. We continue to disseminate information while also addressing work issues brought up by readers as part of initiatives that began in FY2018.

Questionnaires are distributed to ascertain the level of comprehension of emails sent to readers and results for the first quarter were good at 2.4 points (if half of the respondents’ rate of comprehension is 3 points (“well understood”) and, the other half of the respondents’ rate of comprehension is 2 points (“understood for the most part”), then the average is 2.5 points). 96% of employees that responded to the questionnaire indicated that they are comprehending the messages.

The following are some examples of emails sent during the first quarter.

- FY2020 Nuclear Power & Plant Siting Division RE: Key Issues at the Niigata Headquarters (Headquarter general managers, etc.)
- Working amidst Phase 3 of countermeasures (expansion period) at Fukushima Daini (Fukushima Daini Site Superintendent)
- Status of investigation by the Niigata Prefecture Technical Review Committee (Asset Management Department General Manager)



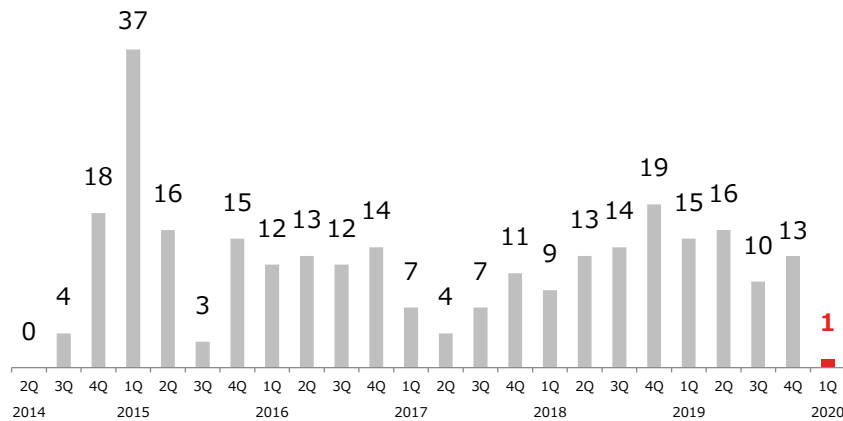
2.2 Improving Safety Awareness

2.2.1 Cultivating Nuclear Safety Culture

(1) Improving safety awareness

■ Direct dialoge between nuclear leaders

Since the fourth quarter of FY2015, nuclear leaders at Headquarters (General Manager of the Nuclear Power & Plant Siting Division and other Headquarter general managers) have been visiting power stations to engage in direct dialogue with power station executives (Site Superintendent, unit superintendents, Nuclear Safety Center Director, power station general managers) in order to improve the safety awareness of the entire organization. During the first quarter travel between sites



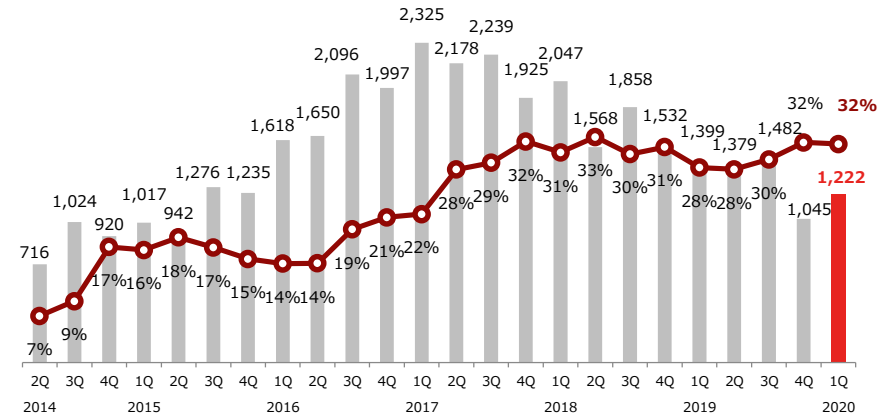
Number of times the Nuclear Power & Plant Siting Division GM engaged in direct dialogue with each department

was prohibited as part of Covid-19 prevention measures, so activities to promote direct dialogue were suspended. However, in order to continue to operate smoothly amidst the declaration of a state of emergency, we have been leveraging online conferencing systems to create frequent opportunities for nuclear leaders to communicate with each other in order to make decisions.

■ Messages from Nuclear Leaders

In order to promote nuclear safety reforms, nuclear leaders must accurately convey their expectations, and the reasons for those expectations, so that they permeate

throughout the entire organization. In order to do this, nuclear leaders are leveraging video messages, intranet messages, email, meetings and morning briefings as opportunities to convey their expectations. The following are examples of messages sent by nuclear leaders via the intranet.



Number of views per message sent via the intranet/"Helpful" assessment rate

(The last quarter does not include results for the last month of the quarter, which was shorter

than the viewing period of one month)

The following are examples of messages sent by nuclear leaders of the of the intranet during the first quarter.

- "New departments start today" Fukushima Daini Site Superintendent (April 6)
- "The Titanic and Safety Culture" Higashidori Site Superintendent (April 15)
- "Changing Meetings" Project Management Office GM (May 22)
- "Covi-19 prevention measures continue at Kashiwazaki-Kariwa" Kashiwazaki-Kariwa Site Superintendent (May 25)
- "RE: Submission of request for authorization of the Fukushima Daini decommissioning plan and prior understanding" Decommissioning Preparations Office GM, Fukushima Daini Site Superintendent (June 1)
- "Nonconformances are the seeds of improvement, a treasure trove" FDEC President (June 15)

■ Commendations given by the General Manager of the Nuclear Power & Plant Siting Division and the President of the Fukushima Daiichi Decontamination & Decommissioning Engineering Company

Since FY2015, the General Manager of the Nuclear Power & Plant Siting Division and the President of the Fukushima Daiichi Decontamination & Decommissioning Engineering Company have given awards to those people that have led the way and taken on great challenges, and people who have achieved high objectives in regards to the Nuclear Safety Reform Plan and other missions. The following chart shows the number of commendations that were given.

Commendations given by the General Manager of the Nuclear Power & Plant Siting Division and the President of the Fukushima Daiichi Decontamination & Decommissioning Engineering Company

(Numbers in () indicate the number for Higashidori from the total
(Note: No commendations were given during FY2020Q1 because the initiative has been suspended due to Covid-19 countermeasures)

Year	HQ	1F	2F	KK
FY2015	24(2)	47	19	24
FY2016	25(1)	19	14	25
FY2017	21(2)	5	15	22
FY2018	16(2)	13	16	15
FY2019	16(2)	33	10	14
FY2020				
Q1	0	0	0	0

(2) Management Training/Nuclear Leader Training

Management training is being provided to TEPCO managers in order to provide them with the technical knowledge required to handle a nuclear disaster. During the first quarter, management training was conducted for one newly appointed executive officer who took office in April 2020 (June 8, June 11).

During training, education was provided about the causes and countermeasures for the Fukushima Nuclear Accident, the basic principles of nuclear safety design, nuclear safety culture cultivation, and nuclear preparedness. Through discussions participants deepened their understanding of nuclear risks.

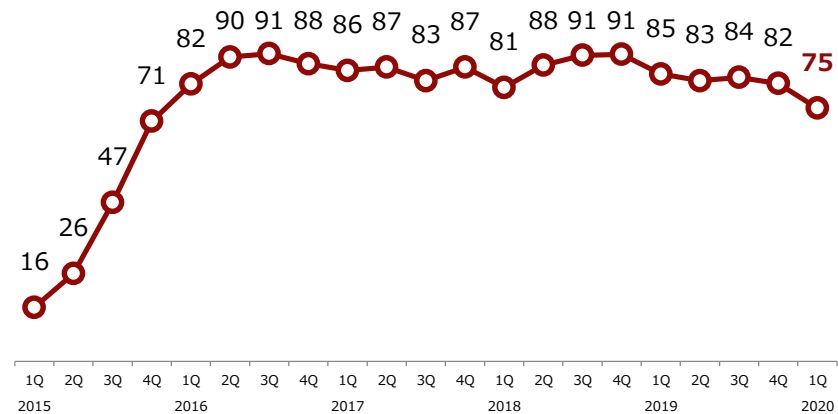
Due to Covid-19 prevention measures, the training is being conducted via an online conferencing system.

(3) Enabling the permeation of nuclear safety culture

■ Reflecting on the 10 Traits

In the Nuclear Power Division all personnel use the intranet system to reflect on whether or not they are embodying the Traits so that the act of reflecting upon the 10 traits and 40 behaviors (10 Traits) for robust nuclear safety culture will become second nature. Group discussions are held once every two weeks to discuss these results and recent performance information in order to deliberate and implement improvement actions as we continually strive to fill in the gaps between the Traits and our own behavior.

During the first quarter group discussion implementation rate dropped because of employees working from home or self-quarantining in accordance with Covid-19 prevention measures. However, daily reflection and group dialogue continued with the development of remote communications environments. We will continue to strive to fill in the gaps between the Traits and our own behavior.



Group discussion implementation rate (%)

(Note: Some numbers for Headquarter departments are not included in the numbers for 2020Q1 due to Covid-19 prevention measures)

■ Activities to promote understanding through basic education

We have been engaging in activities to promote understanding about nuclear safety culture through reflecting on the 10 traits, however a self-assessment of safety culture conducted last fiscal year has shown that “there is no common awareness about safety culture,” and a third-party review conducted thereafter by the World Association of Nuclear Operators (WANO) arrived at the same conclusion. Therefore,

during this fiscal year we shall create standardized educational materials to provide basic education on safety culture while also moving forward with construction of mechanisms to provide this education to employees and contractors in order to achieve our goal of “having common basic educational materials on safety culture and a mechanism for providing such education.”

During the first quarter, we decided on three levels of basic education; a version for leaders, a version that focuses on practical application, and a version that provides fundamentals. Prototype educational materials for the version for leaders were created. We will continue to deliberate standardized educational materials and mechanisms for providing basic education [on safety culture].

■ Management review of safety culture

In order to ascertain the state of safety culture of the entire organization and make improvements, general managers of each department assess the state of safety culture in their respective departments and present the results which are used to assess the state of safety culture throughout the entire organization (safety culture management review). During the first quarter, a safety culture management review was conducted by the Safety Steering Council at Headquarters in continuation from the fourth quarter (May 22). The assessment results presented by general managers conducting the review showed that many feel communication and teamwork are strengths. The purport of the Traits is to examine whether or not safety-related communication is being engaged in, so we will continue to follow up these activities and conduct assessments while remaining aware of this purport.

2.2.2 Performance Improvements (CAP)

(1) Promoting improvements corrective action programs (CAP)

We aim to make efficient and effective improvements by using corrective action programs (CAP) to completely manage not only nonconformance and OE information, but also information useful for improving nuclear safety performance (such as management observation (MO) results, benchmarking results, third-party assessment results, near-miss information, etc.), and formulate even more fundamental countermeasures.

During the first quarter, we continued quarterly performance assessments of activities to identify common weaknesses and make corrections by analyzing/assessing information entered into CAP for major areas at Kashiwazaki-Kariwa and Fukushima Daini.

(2) Making improvements through management observation

In order to promote nuclear safety reforms and improve nuclear safety, TEPCO engages in management observation (MO), which is proactively employed by the best nuclear operators overseas. Through MO, managers can observe actual conditions in the field and accurately identify problems.

Issues pointed out during management observation (MO) at Fukushima Daiichi, Fukushima Daini and Kashiwazaki-Kariwa have been noted in condition reports to solve the problems and also inputted into corrective action programs (CAP) for continual analysis. MO results for the first quarter are as follows:

	1F	2F	KK
# of times implemented	719	642	897
# of times per month per manager	2.6 times/person/ month	3.8 times/person/ month	2.8 times/person/ month
Good MO rate *	—	68%	71%

*Good MO rate: Percentage of MO that PICO (performance improvement coordinator) have deemed to be good practices. However, this was not done at Fukushima Daiichi. Furthermore, newly appointed group managers in TEPCO’s maintenance division at Fukushima Daini and Kashiwazaki-Kariwa are continually being given guidance on MO by overseas experts, and this guidance is also being provided to some contracting company managers.

2.2.3 Leveraging operating experience

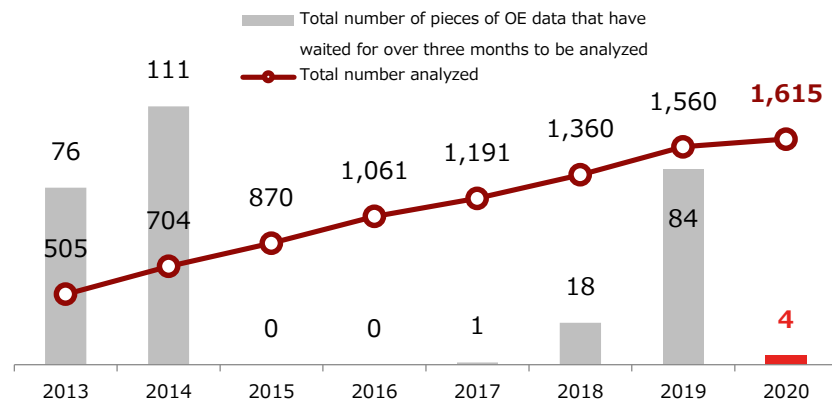
The insufficiencies with preventative measures at Headquarters identified at the Fukushima Daini Nuclear Power Station during the third safety inspection of FY2018 that were deemed a safety regulation infraction are being subjected to root cause analysis and countermeasures, such as leveraging IT tools for monitoring, etc., are being proposed and implemented along with recurrence prevention measures.

(1) Gathering and sharing OE data

One of the lessons learned from the Fukushima Nuclear Accident is that we must “learn from the failures of others.” Lessons to be learned are being identified and countermeasures deliberated/implemented under the premise that something that has occurred somewhere else in the world can also occur at TEPCO power stations. Prior to the Fukushima Nuclear Accident, the gathering of operating experience from

within and outside of Japan, and the deliberation of countermeasures, were put off. Therefore, efforts are being made to promptly engage in these activities and enable everyone in the Nuclear Power Division to leverage this data.

During FY2019, the analysis of 200 pieces of OE data, including data gathered during the previous fiscal year, was completed (cumulative total: 1,560 pieces of data). Due to revisions made to ensure that operating experience data is gathered correctly, which was performed as part of countermeasures for the safety regulation infraction discovered in FY2018, the number of pieces of data that waited for more than three months to be analyzed temporarily increased totaling 84 during FY2019. However, as a result of prioritizing this data for analysis at current time this number has been reduced to five. During the first quarter, 55 more pieces of OE data were analyzed bringing the cumulative total to 1,615. Furthermore, even though the number of pieces of OE data that had been waiting for analysis for more than three months had increased by four, at current time it is zero. Going forward, we shall make further improvements to how data is collected and to our analysis process in an effort to further quicken the speed at which operating experience (OE) data is analyzed, and improve accuracy.



OE data gathering and analysis performance trends

(Note: The reason why there were so much data gathered in FY2013 is because OE data from prior to the Fukushima Nuclear Accident was analyzed)

(2) SOER and severe accident study sessions

All Nuclear Power Division employees, including general workers, attend intensive study sessions on World Association of Nuclear Operators (WANO) significant operating experience reports (SOER) and important operating experience, such as

the Browns Ferry Nuclear Power Plant fire, which has been selected as an example of “severe accidents that have occurred within and outside of Japan,” to enable them to learn about these accidents, get an overview of the troubles that occurred, and understand the lessons that have been learned.

This fiscal year we plan to hold a study session on the KEPCO Mihama accident that was postponed in light of the Covid-19 pandemic.

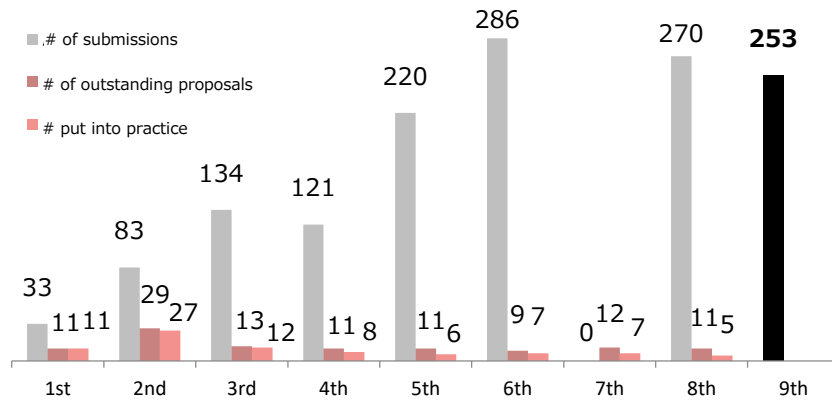
2.2.4 Improving the Ability to Propose Defence-in-Depth Measures (Risk Management)

(1) Competitions to enhance the ability to propose a safety improvement measures

■ The status of competition initiatives

TEPCO has been holding Safety Improvement Proposal Competitions so that personnel may, in addition to conducting multi-faceted reviews from the perspective of defence-in-depth, acquire the technical ability to propose cost-effective safety measures thereby improving safety awareness and improve their technical prowess by having these proposals put promptly into practice. We have been accepting submissions for the 9th Safety Improvement Proposal Competitions from the third quarter of last fiscal year until the end of the first quarter of this year, and have received a total of 253 submissions. Furthermore, during the first quarter the secretariat finished its review of the received proposals. Going forward outstanding proposal shall be selected through a combination of a vote by all employees in the Nuclear Power Division and a final review by nuclear leaders.

The number of submissions and outstanding proposals through the eighth competition is as follows.



Number of submissions to the Safety Improvement Proposal Competitions/Number of outstanding proposals/Number of proposals put into practice

(Note 1: During the 7th competition we conducted a repechage for unselected proposals so the number of new proposals submitted was 0. The number of outstanding proposals from the 9th competition will be selected going forward.)

(2) Using hazard analysis to construct improvement processes

We have created approaches to, and mechanisms for, accidents and hazards for which the frequency of occurrence is largely uncertain and that have the potential to create a calamitous situation as the result of simultaneous and wide-scale loss of function caused by common factors when large enough loads are added, and we are engaged in proposing and implementing countermeasures under the assumption that these accidents will occur.

Furthermore, we are using risk data to perform case studies on virtual hazards (tsunamis, volcanoes, typhoons, etc.) that exceed design standards in order to propose and select required countermeasures, and we are identifying, and making improvements to, operational issues related to processes used to navigate obtained information that has a high degree of uncertainty.

(3) Risk Informed Decision-Making (RIDM)

It is important to identify plant vulnerabilities using risk information, such as knowledge obtained through probabilistic risk assessments (PRA) and maintain/improve plant safety by implementing security measures to make up for these vulnerabilities.

The Risk Informed Decision-Making (RIDM) process is extremely effective for

managing power station risk and entails making decisions related to plant renovations and operation based on knowledge from conventional deterministic evaluation mixed with the knowledge obtained from probabilistic risk assessments. Last fiscal year we compiled an action plan for leveraging risk information (the ideal state we are aiming to achieve by leveraging risk information). In order to initiate activities to bring this plan to fruition, we are currently creating a basic policy for introducing risk informed decision-making (RIDM) while examining how the risk informed decision-making (RIDM) process is to be used and how it will contribute to maintaining and improving the safety of plant operations.

During the first quarter, the risk informed decision-making (RIDM) process was employed when proposing countermeasures for dealing with obtained information that has a high degree of uncertainty, such as virtual hazards that exceed design standards.

Going forward, detailed improvements will be made to this process as we continue to use it.

Furthermore, we have started exchanging opinions with power station Operations Divisions and Maintenance Divisions about how to leverage risk information. Based on the opinions we receive we shall further develop actions in the future and promote the use of risk information.

We are also currently examining the following activities to ensure that risk information is leveraged in a way that matches actual conditions in the field.

- Using the results of probabilistic risk assessments (PRA) to identify equipment and operations that are important for nuclear safety, and informing the Operations and Maintenance Divisions of this, will aid in improving technological capability.
- Improving the reliability of operations by reflecting important operational information in plant operating procedures.
- Leverage the latest risk information during equipment maintenance in order to focus maintenance on important pieces of equipment.
- Contribute to improving effective emergency response capability during emergency response training by considering information obtained from PRA during emergency response training scenario creation. Going forward we will continue to deliberate how to leverage scenarios created from currently obtained PRA results that consider accidents that have a large impact on the frequency of core damage, during actual emergency response training.

2.3 Improving the Ability to Promote Dialogue

2.3.1 Communication with the Siting Community

(1) Providing information that is easily understood

- Creation of pamphlet entitled, “All about Tritium”

At Fukushima Daiichi, we have distributed a new pamphlet that gives information on the tritium contained in treated water resulting from the treatment of contaminated water in order to promote understanding by society (June 17). In the creation of this pamphlet we made every effort to use illustrations and simple expressions in order to foster interest in tritium, which is not very familiar to many people. Going forward, we will continue to create content on treated water and convey information about decommissioning in an easy-to-understand manner.



Cover of Tritium pamphlet



Explanations given using illustrations

- Distribution of leaflet entitled, “The Whats and Whys of Energy”

At the Niigata Headquarters we use various forms of media to engage in corporate communications activities aimed at getting as many people as possible to learn about TEPCO initiatives. At communications booths located throughout Niigata Prefecture we are distributing leaflets entitled, “The Whats and Whys of Energy” in response to the requests of many to, “proactively disseminate information about Japan’s energy situation.” As part of this initiative we are also uploading online videos to the TEPCO website in response to requests from viewers to “make the information easier to understand” and to reflect suggestions about using anime to make the content more interesting. Going forward, we shall continue to strive to disseminate information in an easy-to-understand manner while listening to the

opinions of community residents.



Leaflet “The Whats and Why of Energy”

(2) Communication with stakeholders

- Measures at Kashiwazaki-Kariwa to prevent the spread of Covid-19

At Kashiwazaki-Kariwa, we have suspended TEPCO communication events and power station tours since March 2020 in order to prevent the spread of Covid-19. Furthermore, we have temporarily closed TEPCO corporate communications facilities in Kashiwazaki City and Kariwa Village, and also postponed the opening of the newly renovated Service Hall exhibit hall. These measures have been explained in the power station corporate communications magazine, “News Atom,” through public service announcements on community FM radio, and also during press conferences given by the Site Superintendent.

Amidst these current conditions that make it difficult to engage in communication with community residents, we continue to engage in activities to promote understanding about the safety measures being implemented at Kashiwazaki-Kariwa by establishing a special website for a virtual reality tour of Kashiwazaki-Kariwa entitled, “Let’s Take a Virtual Reality Tour of the Kashiwazaki-Kariwa Nuclear Power Station!” And, we have also developed content about the power station that can be easily viewed from a smart phone, etc. Although measures to prevent the spread of Covid-19 were implemented at Kashiwazaki-Kariwa, in the middle of April an employee at Kashiwazaki-Kariwa tested positive for the virus and we implemented additional countermeasures, such as measures to prevent contact between power station



Press conference by the Site Supervisor

operators and other site personnel, all of which was conveyed to community residents.

Thereafter, thanks to implementing countermeasures, such as suspending construction projects from April through the Golden Week holiday in May, no new cases of Covid-19 have been found. Therefore, as announced on May 11, we shall gradually recommence various projects at the power station while continuing to implement Covid-19 prevention measures. We have used photographs to show the public the detailed measures that we have implemented, such as measures to prevent the spread of droplets in offices, and also included articles in communications publications to tell community residents about these Covid-19 countermeasures.

We have continued to swiftly provide information on Covid-19 countermeasures and infections to government offices in both Kashiwazaki City and Kariwa Village, and we have also given detailed explanations to stakeholders, such as local chambers of commerce and council members.

■ Community service activities in Kashiwazaki-Kariwa

We have worked with the educational communities in Kashiwazaki city and Kariwa Village to promote understanding of the energy industry by the next generation through lectures on electricity, shop classes and experiments. During the first quarter, we distributed crackers stored at the power stations for use as emergency food supplies to 23 locations in Kashiwazaki City and to afterschool kids' programs in Kariwa Village as part of our "continuous connection" initiative with the community.

Furthermore, we have been holding online events via the company's intranet and giving information on area restaurants that are offering take-out in order to promote the use of these take-out services during lunch time as a way to support community restaurants amidst fears of impoverishment of the local economy. And, for nine days between June 18 and June 30, 53 corporate communications employees participated in a beach cleanup of the Arahama coast as part of initiatives to volunteer and give back to the community. A similar event will be held to clean up the Oominato coast. We shall continue to volunteer and participate as a company in local events and activities that contribute to the community.



Beach cleaning by employees

■ Promoting dialogue via email and telephone

At the Aomori Office activities to promote dialogue by visiting opinion leaders and local government representatives have been suspended in accordance with measures to prevent the spread of Covid-19 that have been implemented in light of requests from Aomori Prefecture and in accordance with government policy. With less frequent opportunities to engage in face-to-face dialogue, we are proactively promoting activities to engage in dialogue via email and telephone and have been able to continually engage in communication and suitably convey information. Furthermore, when providing information via email, we are using innovative means to deepen understanding amongst readers, such as clearly stating the point of the message. Going forward, we shall continue to promote dialogue, such as recommencing face-to-face dialogue, while remaining conscious of the ongoing pandemic and considering the wishes of the people we are engaging with as we strive to continue to maintain the relationship of trust we have built with the community.

■ Issuing of the summer edition of our public relations magazine "Yukishiromizu"

Our public relations magazine, "Yukishiromizu," carefully explains the status of initiatives underway at the Aomori Office and is regularly distributed in conjunction with visits made to the homes of residents in Higashidori Village in the spring and fall. However, in light of the Covid-19 pandemic, visits to households planned for the spring were suspended, so a summer edition of Yukishiromizu was distributed to the community via the post office. Furthermore, when sending the magazine by mail we attached a letter explaining why the magazine was being distributed via the post office (in consideration of the Covid-19 pandemic) and also the measures that the Aomori Office is implementing to prevent the spread of the virus in an effort

to enable the community residents to understand the initiatives that TEPCO has implemented and bring them peace of mind.

(3) Communication activities by management

■ Online lecture by Senior Counselor Hirose

Senior Counselor Hirose gave an online lecture to approximately 140 students from the University of Tokyo Graduate School of Public Policy about the Fukushima accident and what has happened since. This is the first time such an online lecture had been given, but chat functions were used to enable participants to ask questions during lecture and the students listened with interest.

After the lecture, participants commented that, “being able to directly hear from the former president of TEPCO, who is responsible for the accident, was a valuable opportunity,” and, “I learned that a lot of progress has been made at the power station and in the vicinity during the nine years since the accident.”

We will continue to convey the current conditions at Fukushima Daiichi while taking into consideration the interests and concerns of lecture participants and also measures to prevent the spread of Covid-19

(4) Info Magazines published by TEPCO

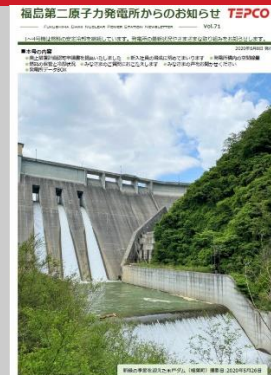
■ Niigata Region

News Atom	
Date of Issue	April 5, May 14 (Special Edition), June 15
Circulation	Approx. 31,000 copies (Only the June edition was distributed to all households)
Overview	<ul style="list-style-type: none"> • Farewell and greeting from old and new site superintendents • This month's power station news • Introduction of VR content • Kids' Science (Experiment Edition)



■ Fukushima Region

	Hairomichi	Announcement from Fukushima Daini
Date of Issue	April 10, June 10	April 1, June 8



Circulation Overview	Approx. 45,000 copies	Approx. 14, 000 copies
	<ul style="list-style-type: none"> Decommissioning ~Mid/Long-Term Objectives and Schedules~ Exhaust stack dismantling with help from local companies ~Local companies lending a helping hand with decommissioning~ 	<ul style="list-style-type: none"> Information on appointment of new site superintendent Fuel storage and cooling status Submission for approval of decommissioning plan

■ Aomori Region

Yukishiromizu	
Date of Issue	June 26
Circulation Overview	Approx. 3,200 copies
Overview	<ul style="list-style-type: none"> Greetings from the Aomori Office General manager and the Higashidori Nuclear Power Plant Construction Site Superintendent Field status Special coverage of “construction fieldwork” focusing on ground boring surveys I want to get to know Higashidori Village ~Agriculture Edition~



2.3.2 Communicating with overseas parties

(1) Disseminating information overseas

- Disseminating information through press releases, and social networking services (SNS)

In an effort to proactively disseminate information we continue to convey information through English press releases, social media platforms, such as Facebook and Twitter, etc., and email magazines are being sent to overseas media outlets and intellectuals. During the first quarter, 19 press releases and one email magazine were issued, 11 posts were made to Facebook, and 11 tweets were made on Twitter. We will continue to disseminate information at appropriate times while paying attention to the concerns of overseas media outlets and trends in the overseas media coverage of TEPCO.



Twitter tweet example (Fukushima Daiichi; Dismantling of the Unit1/2 exhaust stack completed)



Facebook post example (Fukushima Daiichi; Unit 2 SFP internal investigation)

- Updating our English newsletter

Our Washington D.C. office distributes an English newsletter entitled “Fukushima Update,” which conveys information on the current state of the decommissioning of Fukushima Daiichi, on a monthly basis to representatives of the US government, intellectuals and industry representatives. Immediately after the disaster, TEPCO was issuing many press releases, but very little were being translated into English.

Therefore, we began distributing Fukushima Update in light of requests from US government and industry officials to compile information in English. Even though our press releases are now translated into English we have been asked to continue to issue the Fukushima Update, so we are now publishing a digest version that talks about Fukushima today and is based on the status of progress with the Fukushima Daiichi Mid/Long-Term Roadmap. During the first quarter, we updated the newsletter by adding pictures and videos, and creating a web-based email version that is easier to read on smart phones. And, we are making an attempt to show the faces behind the information by including messages from the FDEC President and interviews with TEPCO employees and contractors engaged in decommissioning as we attempt to focus on the people actually decommissioning Fukushima Daiichi. Readers have commented that the newsletter is easier to read and that they have taken an interest in the people involved in decommissioning.

Fukushima Update for July 2020



English newsletter, "Fukushima Update"

2.4 Improving Technological Capability

2.4.1 Strengthening technological capability (during times of emergency)

(1) Enhancement of Power Station and Headquarter Emergency Response (Organizational) Capabilities

The training that has been performed at each power station is as follows.

■ First Quarter general training at Fukushima Daiichi: May 25, June 29

During the first quarter, general training was held on responding to a decrease in spent fuel pool water levels and a loss of all AC power caused by an earthquake with a hypocenter in Hamadori, Fukushima Prefecture while implementing measures to prevent the spread of Covid-19. In consideration of measures to

prevent the spread of Covid-19, during this training session one of the conference rooms in the new main administration building was set up to mimic the emergency response center in the seismic isolation building and restrictions were put on the number of personnel. Furthermore, in order to avoid the Three C's, personnel in team leader/supervisor positions or higher wore face shields and confirmed that the sound of their voices when giving instructions and sharing information was not impaired. Going forward we shall conduct training while implementing measures that match our new lifestyle, such as taking the temperature of participants before they enter the seismic isolation building emergency response center, having all trainees where face shields, and increasing the distance between seats.

■ First Quarter general training at Fukushima Daini: May 11, May 25, June 8

General training during the first quarter simulated a decrease in spent fuel pool water levels and a loss of all AC power caused by a large earthquake with a hypocenter in Hamadori, Fukushima Prefecture. During training we confirmed that the three-team shift system, which has been put into use as part of the third round of countermeasures to prevent the spread of Covid-19, was able to adequately respond to the emergency. During training, only people in team leader/supervisor positions or higher were allowed to enter the emergency response center in order to avoid the Three C's. Determining a deviation from the limiting conditions of operation (LCO) and the emergency action level (EAL), giving instructions to notify the authorities of the event, proposing repair strategies and holding objective setting meetings, was all done by only the three teams on duty thereby showing that an initial response to a disaster is possible even under the conditions resulting from the implementation of the third round of countermeasures to prevent the spread of Covid-19.

■ First quarter general training at Kashiwazaki-Kariwa: April 10, May 29, June 19

Since the Covid-19 pandemic had just reached Japan, preparedness training on April 10 consisted not of regular preparedness training that may have forced trainees to be exposed to the Three C's, but rather classroom study for all nuclear preparedness personnel aimed at improving understanding of one's own behavior during a nuclear disaster. This was achieved by improving comprehension of operation guides for each functional team.

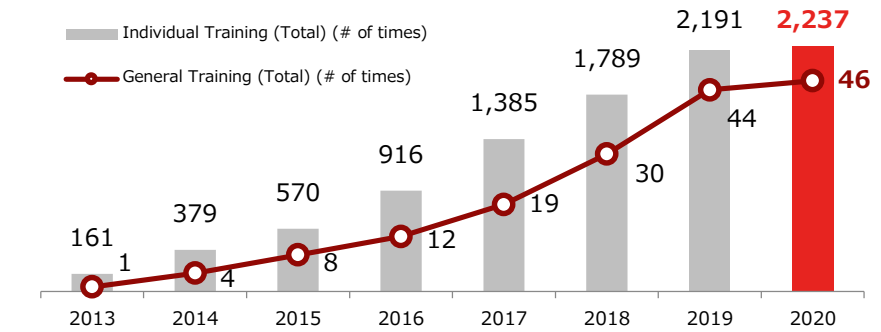
During preparedness training on May 29, we conducted Type-I Training, which is training required by the Nuclear Regulation Authority to improve coordination between the main control rooms and the emergency response center, upon

implementing measures to prevent the spread of Covid-19, such as ensuring that training locations are well ventilated and that trainees practice social distancing. During this Type-I Training, external observers and assessors were not allowed to observe training due to Covid-19 prevention measures, but a new assessment method was employed by which a video of the training was provided at a later date to the Nuclear Regulation Authority and other companies in order to have them assess the training session.

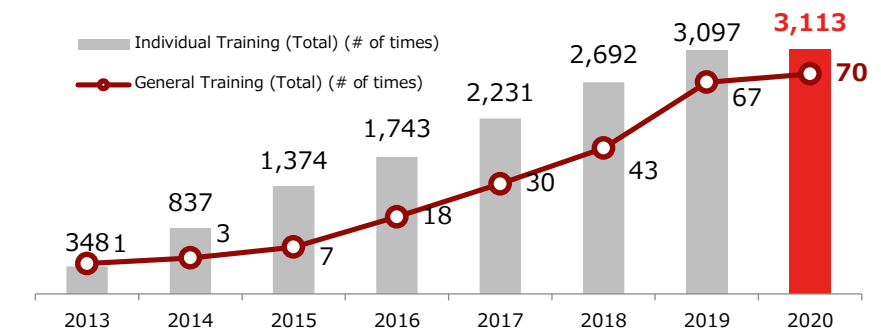
During preparedness training on June 19, all training personnel were required to wear face shields as a Covid-19 prevention measure in addition to ensuring proper ventilation and social distancing. The training scenario consisted of a loss of cooling water injection function resulting from equipment nonconformances and a loss of external power caused by an aftershock of the Niigata Prefecture Chuetsu-oki Earthquake of 2004, thereby resulting in any event that conforms to clause 10.15 of the Nuclear Emergency Preparedness Act. Preconditions for the scenario were heavy rainfall and clogging of outdoor water drainage channels that caused flooding at the time of the earthquake thereby resulting in multiple natural disasters that escalated into a nuclear disaster. Training confirmed, however, that personnel were able to adequately respond to this emergency. We plan to deliberate new methods for implementing training in light of this preparedness training that was conducted while implementing Covid-19 prevention measures.



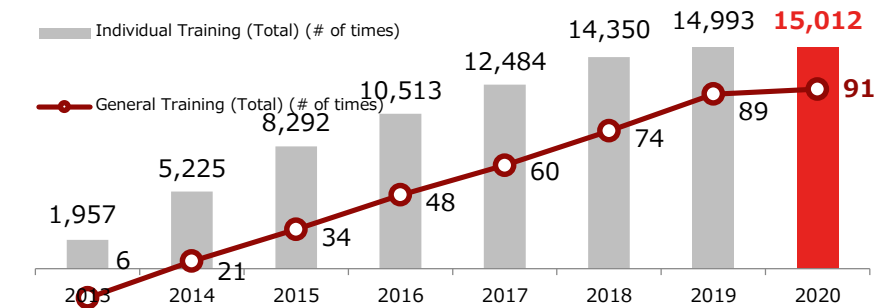
Emergency response training (Kashiwazaki-Kariwa)



<Fukushima Daiichi>



<Fukushima Daini>



<Kashiwazaki-Kariwa>

■ FY2019 preparedness training assessment results

In the FY2019 Operator Preparedness Training Assessment conducted by the Nuclear Regulation Authority (released on July 28), Fukushima Daiichi was able to receive an A assessment in all 10 categories of the assessment even though it had received a B assessment for two categories in FY2018. Fukushima Daini received A assessments for nine categories and a B assessment for “reliable notification and reporting.” Kashiwazaki-Kariwa received A assessments for nine categories and a B assessment for “sharing information with the ERC plant team.” At Kashiwazaki-Kariwa, we selected personnel that were not part of the team that received A assessments for all categories in FY2018 and subjected them to repetitive training in an effort to increase the number of experts in each position. At the same time, we examined the ability to quickly and accurately report emergency situations amidst conditions where multiple emergency action levels have been issued over a short period of time by simulating simultaneous serious accidents at Units 6 and 7, which are in operation, in order to improve our ability to respond to emergencies. Results showed that there are still issues that need to be improved in regards to sharing information with the Nuclear Regulatory Agency. Going forward, we shall repeatedly implement training using various scenarios in order to make new improvements thereby improving our ability to respond to emergencies and providing peace of mind to the members of the community.

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(2) Improving the in-house technological capability of power stations (operations)

In the operations field, we are certifying workers on the operation and connection of power supply trucks and fire trucks to ensure that there are people available to take the place of injured repair team personnel if such action becomes necessary during emergency. At Kashiwazaki-Kariwa, such training began in FY2013, and at Fukushima Daiichi and Fukushima Daini the training began in FY2014. The number of people certified during the first quarter of FY2020 is as follows:

Power Stations	Fire Trucks		Power Supply Trucks	
	Number of certification holders (QoQ)	Fill rate	Number of certification holders (QoQ)	Fill rate
End of June 2020				
1F	40 (±0)	117%	39 (±0)	114%
2F	32 (±0)	100%	32 (±0)	100%
KK	107 (±0)	124%	94 (+3)	96%
	Number of instructors within shifts: 140 (-1)			

Initiatives to improve the in-house technological capability of operators (no. of certifications)

(3) Improving the in-house technological capability of power stations (maintenance)

■ Fukushima Daiichi

We are continually implementing training on responding to a loss of on-site power (cooling water injection equipment operation training, such as training on the operation of power supply trucks, emergency generator operation training, and concrete pump truck operation training) in order to improve the ability to respond to emergencies. During the first quarter, we focused on training on the operation of power supply trucks in order to secure on-site power in the event of a loss of external power. During this training, innovative steps were taken to make each worker aware of their role by clearly noting the roles of field commanders and personnel in the procedures in light of the issues pointed out by assessors during “Field Exercise Training In Coordination with the Emergency Response Center Based on Accident Scenarios (Power Supply Truck Operation/Connection Training)” implemented during the fourth quarter of FY2019.



Cable connection inspection (power supply truck operation training)



Voltage/frequency adjustment (power supply truck operation training)

■ Fukushima Daini

In order to improve the ability to respond to emergencies we are conducting repetitive training drills with four teams (① rubble removal/road repair, ② generator replacement, ③ temporary cable connecting, ④ coolant pump repair). During the first quarter, conventional training could not be implemented due to the Covid-19 pandemic, but training was implemented for a limited number of days in small groups on the operation of heavy equipment used by the rubble removal/road repair team. During training, the steering wheels and levers, etc. were disinfected with disinfecting towels and disinfectant sprays as operators changed positions in an effort to prevent the spread of Covid-19. We will continue to conduct training to the extent possible in light of Covid-19 prevention measures as we aim to maintain and improve in-house technological capability.

■ Kashiwazaki-Kariwa

In order to improve in-house technological capability so that we can prevent severe accidents from happening, we are implementing various types of training after separating field personnel into their respective teams, such as the coolant water injection team, refueling team, power supply team, and the substitute heat exchanger team, etc. During the first quarter, the coolant water injection team engaged in training on deploying and connecting hoses from fire trucks to the feedwater port; the refueling team engaged in training on connecting hoses that simulated the refueling of tanker trucks from the fuel truck; the power supply team engaged in training on the operation of gas turbine generator trucks and high-voltage power trucks; and the substitute heat exchanger team engaged in training on the operation of



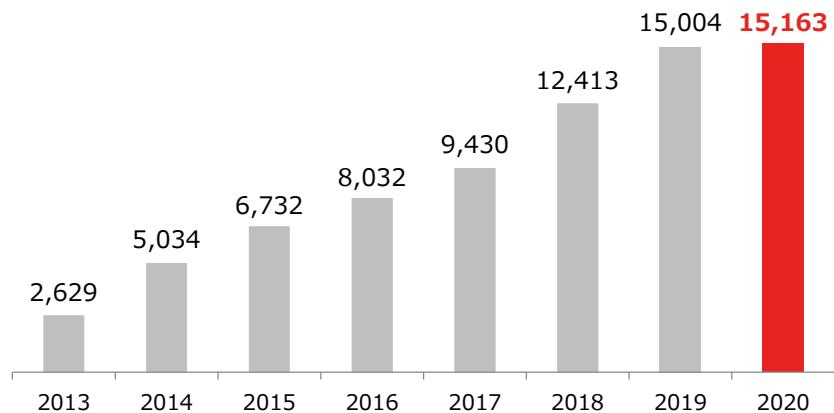
Hose connection training (tanker truck)



Gas turbine generator truck operation training

substitute circulated cooling equipment and training on relocating to equipment locations based on a scenario where the auxiliary cooling system was rendered unusable, all in an effort to maintain and improve the skill.

Furthermore, as a measure to prevent the spread of Covid-19, during indoor training (emergency response center) the number of participants was limited and all trainees were required to wear face shields. We will continue to implement repetitive training as we aim to maintain and improve in-house technological capability.



Trends in the number of maintenance personnel that have undergone in-house training (totals for Fukushima Daiichi, Fukushima Daini and Kashiwazaki Kariwa)

2.4.2 Strengthening Technological Capability (during times of non-emergency)

(1) Improving education and training programs based on SAT

- Reconstructing education and training programs based on the Systematic Approach to Training (SAT)

The Nuclear Education and Training Center has adopted the Systematic Approach to Training (SAT), which is recognized internationally as a best practice, and is providing education and training programs necessary for personnel development throughout the entire Nuclear Power Division. In order to continually improve education and training we have created three tiers of review bodies consisting of

the Nuclear Power Division Education and Training Committee, Power Station Education and Training Committee, and Curriculum Review Meeting. These three bodies effectively put education and training programs through the Plan-Do-Check-Act (PDCA) cycle based upon SAT.

During the first quarter, the results of the FY2019 industrial worker technical skill certification exam (Level A, Level B) were compiled and we confirmed that during FY2019 39 people from the Nuclear Power Division passed Level A and 79 people passed Level B. The entire schedule for FY2020 industrial worker technical skill certification (Level A, Level B) training has been revised due to the Covid-19 pandemic, and we plan to put the new schedule into full implementation during the second quarter.

Field	HQ	1F	2F	KK	Total
Operations	1/0	3/0	2/4	7/12	13/16
Maintenance	1/2	8/16	2/5	4/10	15/33
Security	1/0	1/7	1/2	2/4	5/13
Fuel	0/2	1/0	0/1	0/1	1/4
Safety	4/2	0/1	0/3	1/7	5/13
Total	7/6	13/24	5/15	14/34	39/79

FY2019 industrial worker technical skill certification exam results (Numbers in the graph indicate the number of people that passed Level A/Level B)

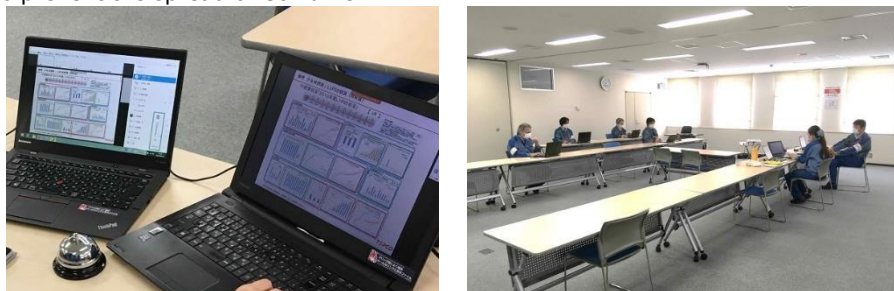


FY2019 industrial worker technical skill certification exam (Left: Maintenance and electrics, Right: Fuel engineering)

- Management training

Since FY2015, we have been implementing middle management training in order to reconstruct the roles and mission of general managers in charge of departments with as many as 250 people, and accelerate nuclear safety reforms. During site

general manager training, general managers who have been in their positions for two years participated in training in November 2019. Thereafter, at each power station issues that needed to be resolved by the entire site were identified, and teams spent six months engaged in activities to resolve these issues after which the achievements were announced during a problem focus session in June. The problem focus session was conducted via online conferencing systems in light of measures to prevent the spread of Covid-19.

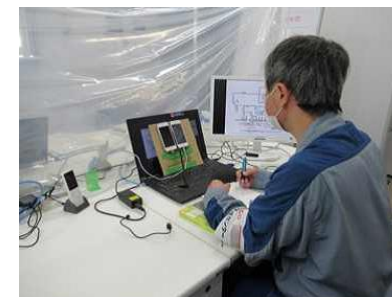


Problem focus session my site general managers (Left: Online conferencing system, right: Fukushima Daini)

■ New employee training

Due to the Covid-19 pandemic, the Group company assembly for new employees hired in FY2020 was postponed and new employees were assigned directly to each site (Fukushima Daiichi: 42, Fukushima Daini: 9, Kashiwazaki-Kariwa: 56 (of this total for KK three people were assigned to Higashidori, and three people were assigned to Headquarters)). During new employee training, a new training method that utilizes online conferencing systems was employed and going forward we will further develop this training environment that matches our new way of life.

As part of the improvements to be made during FY2020, we shall further develop training on handling issues unique to power stations, such as training that enables participants to learn how to use equipment schematics that are frequently needed to perform actual tasks, such as exploded wiring diagrams and pipe instrument wiring diagrams, training on engaging in the decommissioning of Fukushima Daiichi, training on the steps being taken to start decommissioning Fukushima Daini and Daichi, and also training on the safety measures at Kashiwazaki-Kariwa. For six months, new employees will learn about nuclear safety, radiation safety, work safety, basic logic, and plant equipment, and engage in training to develop a sense of what it's like to work in the field, such as field training and shift training, as they acquire the basic knowledge required of their assigned post in each group.



New employee training via remote conferencing system (trainees) (Instructor)

(2) Training and certifying system engineers

In order to promptly and safely stabilize a reactor when there is an emergency, personnel need to quickly ascertain the circumstances of the accident and make accurate decisions. Therefore, engineers are being trained to be proficient in design, laws and regulations, standards, operation, maintenance and other areas pertaining to facilities important for safety. System engineers formulate system monitoring programs, which stipulate monitoring targets and standards for monitoring system performance degradation, in order to monitor whether or not primary plant systems are fulfilling design requirements in the short term and make suggestions about requirements for maintaining system reliability. Furthermore, system engineers are also expected to identify areas for improvement to system reliability over the long term, and make such improvements.

There are currently seven system engineers at Kashiwazaki-Kariwa that monitor 34 systems at both Units 6 and 7. During the first quarter regular assessments of 22 systems in use were conducted and was reported that there are no abnormalities with system performance and that additional measures are unnecessary. We will continue to increase the number of systems to be monitored and train personnel with the objective of having five system engineers for each operational plant.

Currently at Fukushima Daini four system engineers continuously monitor six systems at each of reactor units 1~4. During the first quarter no abnormalities with performance were found, and it has been reported that additional measures are unnecessary.

(3) Enhancing configuration management

Configuration management is a process for maintaining the safety of the plant and ensuring that power station equipment has been manufactured, installed, and is being operated as designed. Deliberations continue on measures required for maintaining and managing a state in which design requirements, actual equipment, and equipment schematics all match.

In order to improve accessibility to information on design requirements and design basis, we are compiling this information into design standard documents. During this quarter we began creating design documents for systems at Kashiwazaki-Kariwa Unit 6 that are vital for safety. And, at Fukushima Daini we have also started creating design documents within the scope required to maintain safe plant shutdown of Unit 4. We are currently in the process of making preparations to explain the details of the standard design documents for Kashiwazaki-Kariwa Unit 7 that were written last fiscal year to officials.

In regards to the configuration management process (design change management process), we continue to make revisions based upon benchmarking information from US operators, and during this quarter, we revised internal manuals (basic design management manuals) and put new work processes into full-scale use (April 1). The revised manuals newly include measures required for configuration management, such as measures to improve the accuracy of design input, and measures to make workers further aware of the importance of matching schematics with actual pieces of equipment. Going forward we shall monitor how the processes are being used in order to make further improvements.

(4) Improving project management skills

We have created projects for resolving problems that exist across all departments involved in decommissioning at Fukushima Daiichi and safety measure implementation at Kashiwazaki-Kariwa, and are striving to resolve trans-departmental issues. During FY2019 we promoted the understanding of project management and started offering an e-learning course on project management basics that both personnel from the FDEC and Nuclear Power & Plant Siting Division may take. Furthermore, at Fukushima Daiichi we reorganized departments on April 1 and established a Project Management Office for supervising and providing support to programs, such as contaminated water countermeasures, pool fuel removal, and fuel debris removal, etc., which enabled us to transition to a project-oriented organization. Going forward, we plan to provide training for project managers that handle projects and in June we began offering e-Learning on 10 courses intended to deepen understanding of actual tasks as part of our basic

project management training for managers in each program department. Project manager training conducted at the FDEC is also scheduled to be conducted in the Nuclear Power & Plant Siting Division.

(5) Improving nuclear safety and productivity through Toyota-type kaizen

The basic flow of kaizen in the Nuclear Power Division is as follows. Firstly, the objective of the task is understood by all parties involved, and what needs to be done to achieve that objective is identified. Next, the gaps between what is being done currently, and what needs to be done, are put into visual form. Then, what is currently being done is dismissed in order to return to a clean slate and identify what needs to be done to fill in these gaps. Upon doing this, kaizen measures are formulated while also incorporating measures to improve safety and quality through creative vision. Examples of activities that have been engaged during the first quarter are introduced below.

■ Examples of kaizen at Kashiwazaki-Kariwa

At Kashiwazaki-Kariwa, up until now TEPCO employees had been the focal point of kaizen, but we have expanded these activities to contractors as well. After Tokyo Power Technology Ltd., which is a 100% subsidiary of TEPCO, low-level radioactive waste generated at the power station is transported and loaded onto ships to be carried to Japan Nuclear Fuel Ltd. (Rokkasho). Since this work is only conducted approximately once a year, it is very difficult for workers to observe it, so we have implemented kaizen by which the work is simulated using the actual trucks and forklifts used for observation purposes. As a result, we've been able to reduce the number of personnel and man-hours required for the task by approximately one-third. Furthermore, by having contractors be involved in kaizen to improve the process, each and every worker will learn to think about the necessity of various tasks (things that have to be done, things that should not be done) while engaging in their daily duties thereby improving work safety and preventing human error. Going forward, kaizen activities shall be implemented at other contracting companies while referencing this example.



Relocating containers inside the warehouse



Loading containers onto ships

■ Examples of kaizen at Fukushima Daiichi

At Fukushima Daiichi, inspections of storage batteries are being performed in-house as a way to improve the technological capability of employees. Storage batteries are used to provide DC power to power and control instruments and electrical equipment, and the inspections of these batteries had been outsourced. During the inspection it is necessary to sample and record data, and replenish liquid in storage batteries. By improving sampling methods and the frequency of data sampling, and using electric pumps to replenish liquid, we have been able to reduce the number of man-hours required for this task by approximately one-sixth. By having employees implement kaizen for outsourced tasks we can contribute to improving our technological capability during times of emergency, so we will continue to perform these inspections task in-house.



Replenishing liquid in storage batteries (Left: Prior to kaizen, Right: After kaizen)

3 Progress Assessment

3.1 Self-Assessments of Key Issues

At the 15th Meeting of the Nuclear Reform Monitoring Committee (NRMC) held on October 5, 2018, a report on our self-assessments was given. In addition, at the 16th Meeting of the Nuclear Reform Monitoring Committee Held on January 29, 2019, a report was given on an action plan to fill in the gaps between reality and expectations in regards to technological capability and communication, which has been formulated in order to revamp self-assessments. Furthermore, at the 17th Meeting of the Nuclear Reform Monitoring Committee Held on February 4, 2020, a report was given on the status of efforts to strengthen self-assessments and handle key issues (improving safety/quality and improving the quality of communication). The NRMC commented that, “Since the last meeting we have seen great progress as a result of strengthening corporate governance through more stringent self-assessments. In particular, we would like to commend management for identifying weaknesses and formulating action plans to fill in gaps and correcting these weaknesses,” and, “as conditions continue to change into the future, Headquarters and power stations each need to fully understand their roles and coordinate while remaining aware of your own weaknesses and issues in order to become an organization that can implement improvements before they are pointed out by third parties.”

TEPCO is currently in the process of formulating a detailed action plan in light of these comments.

3.1.1 Improvements based on self-assessments

(1) Strengthening self-assessments

In 2018 we created and put into use a focused self-assessment (FSA) guide and performed a focused self-assessment (FSA) prior to the WANO corporate peer review (CPR). When the organizational weaknesses identified during the focused self-assessment (FSA) were compared with the issues pointed out by the CPR, there were almost the same thereby showing that our focused self-assessment (FSA) is self-critical and effective. However, there are discrepancies between effectiveness assessments and each functional field and the fields in which focused self-assessments (FSA) are conducted thereby indicating that methodology and know-

how are not being clearly documented, or sufficiently shared. Going forward, we shall implement periodic focused self-assessments (FSA) for important topics in each functional field, strengthen monitoring of, and follow-ups to, PDCA using post-FSA condition reports, and assess the effectiveness of focused self-assessments (FSA) using work performance data based upon which we shall continue to clearly document and standardize methodology and know-how.

(2) Improving safety and quality

The Nuclear Power & Plant Siting Division is aware of weaknesses in its initiatives to address cross-departmental issues. Furthermore, in conjunction with the commencement of the new inspection system it is vital that we understand design requirements, and that each power station department takes the initiative to identify safety weaknesses on their own and resolve these weaknesses based upon risk and performance. Going forward, we will resolve cross-departmental issues at power stations by focusing on field conditions and the conditions of actual equipment in the field, and improve our ability to resolve issues based upon the impacts and risks to safety.

At the Fukushima Daiichi Decontamination & Decommissioning Engineering Company (FDEC), a Decommissioning Safety and Quality Office was established in April in order to strengthen safety and quality in the field in light of nonconformances and accidents that have occurred in recent years. Noticing abnormalities through field checks and initiatives to improve safety and quality that focus on field conditions, such as kaizen, etc., are the driving forces behind the Decommissioning Safety and Quality Office, which will work hand-in-hand with power station departments to further activities.

(3) Improving the quality of communication

At Kashiwazaki-Kariwa, we are engaged in initiatives to improve the quality of communication as reported during the 17th meeting of the Nuclear Reform Monitoring Committee. The serious nature of a rash of communication-related errors that have affected parties outside the company has prompted us to clarify leader responsibility and improve teamwork amongst night shift employees. We are implementing thorough training about basic actions, such as double checks, etc., and strengthening the team management skills of supervisors. Going forward, we

aim to leverage IT to reduce hands-on tasks, and eliminate the risk of message sending errors during notification and communication training.

3.2 Monitoring by the Nuclear Safety Oversight

Office

In the pursuit of excellence, the Nuclear Safety Oversight Office (NSOO), which is an independent internal oversight department, has reported its observations to the executive officer committee and the Board of Directors.

During the first quarter, monitoring activities performed at the power stations were restricted due to Covid-19 prevention measures, but the NSOO was able to review power station daily reports, past nonconformance reports, and documents created at the power station, in addition to conducting indirect interviews via various means of communication. The NSOO confirmed that there are no serious problems with power station operation from the perspective of nuclear safety, and made efforts to ascertain latent issues in regards to preparations to recommence operation of Kashiwazaki-Kariwa and radiation protection at Fukushima Daiichi. Field workers will report on actual conditions during the second quarter in order to compile the observations made during the first quarter into effective recommendations for the field with the intention of providing recommendations for the first half of the year.



4 PI Results

4.1 FY2020 PI

Key performance indicators (KPI) for FY2019 have been managed by taking the average values of performance indicators (PI) for safety awareness KPI (from nuclear leaders/entire Nuclear Power Division), ability to promote dialogue (external/internal), and technological capability (times of non-emergency/times of emergency). These averaged KPI are not omnipotent PI that can address all events, and improvements are made based on individual PI, so for FY2020, KPI will not be averaged and PI have been set.

As put forth in Nuclear Safety Reforms for the Next Generation, work mechanisms and procedures that include nuclear safety reforms shall be systemized by the Management Model and incorporated into daily duties through work plans. The Management Model states indicators (PI) for measuring to what extent “important success factors” and “ideal state after achieving improvements” have been achieved for each “management factor” of performed tasks. The following “management factor” PI related to “safety awareness,” “technological capability,” and “ability to promote dialogue,” which comprise the sense of values of the management model, were identified from the Nuclear Safety Reform Plan and selected from “management factor” PI set for the management model as PI for

FY2020.

Management Model management factors from which PI were selected

PI

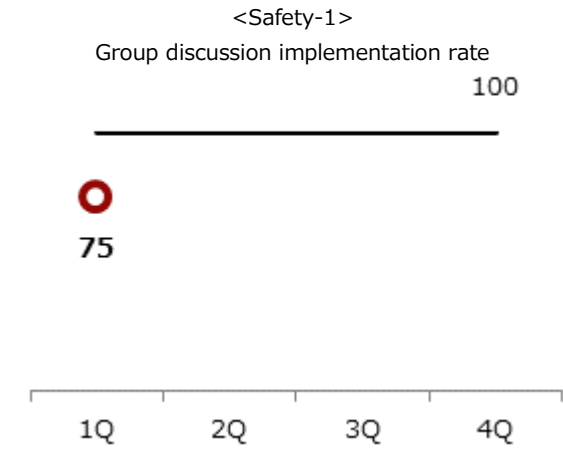
The following “management factor” PI related to “safety awareness,” “technological capability,” and “ability to promote dialogue” were selected from PI set for each “management factor” in the Management Model.

- Safety awareness: safety culture cultivation, performance improvement, leveraging operating experience
- Ability to promote dialogue: external communication, internal communication
- Technological capability: education/training, emergency response

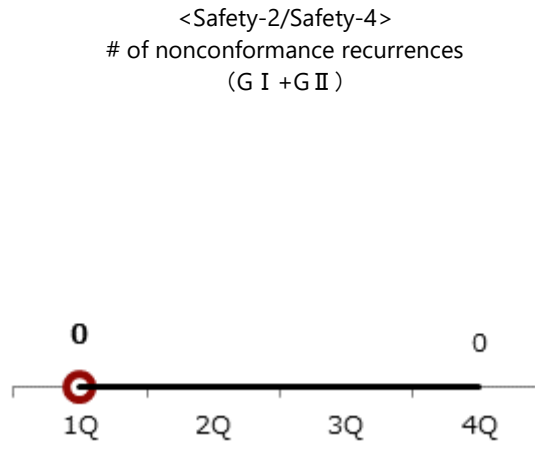
4.2 PI Results

Management Model PI are used to monitor performance in various ways, and there are a great number of PI being monitored. Therefore, the FY2020 PI included in this quarterly report are PI with high importance levels selected from the “management factor” PI shown in the chart above.

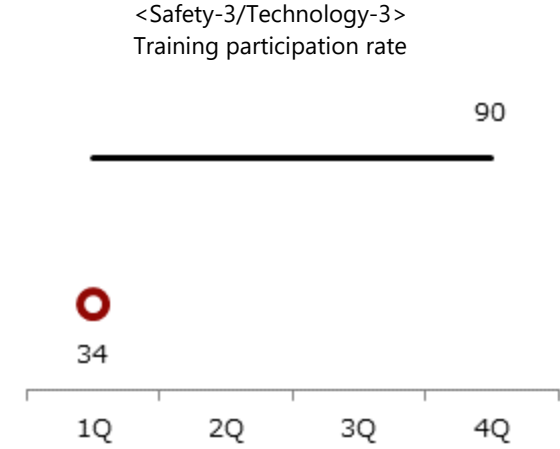
■ Safety Awareness/Safety Culture Cultivation: ※Safety Culture Cultivation may overlap other management factor PI since it relates to many fields



Target: 100% average since the beginning of the fiscal year

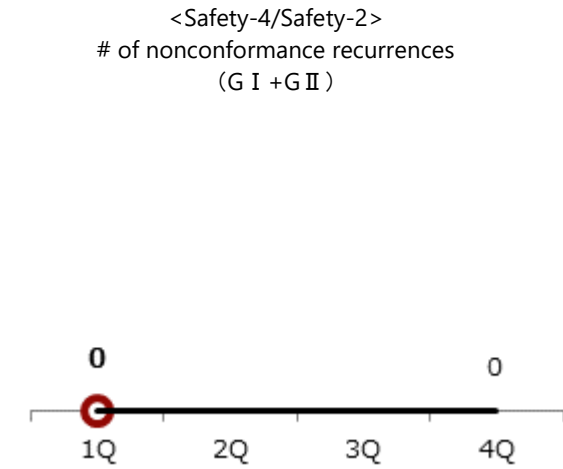


Target: 0/month, Monitored: HQ, 2F, KK

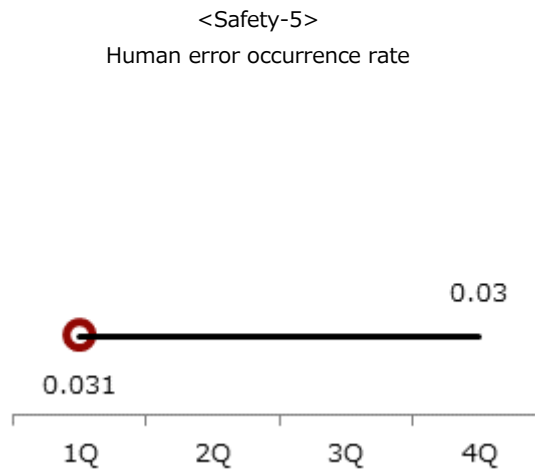


Target: 90%

■ Safety Awareness/Performance Improvements



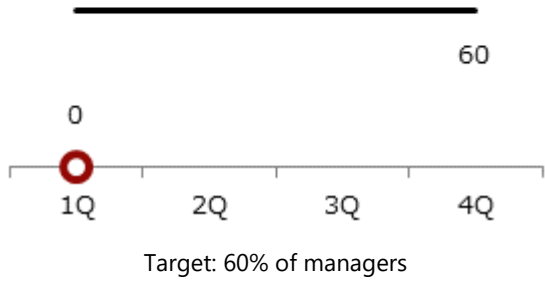
Target: 0/month



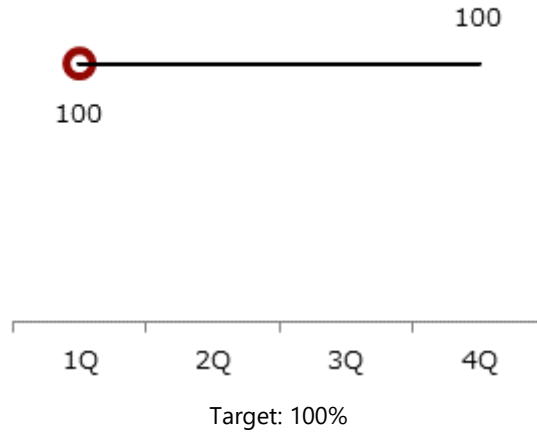
Target: 0.03/person/10,000 hours

■ Safety Awareness/Leveraging Operating Experience

<Safety-6> Significant operating experience training participation rate

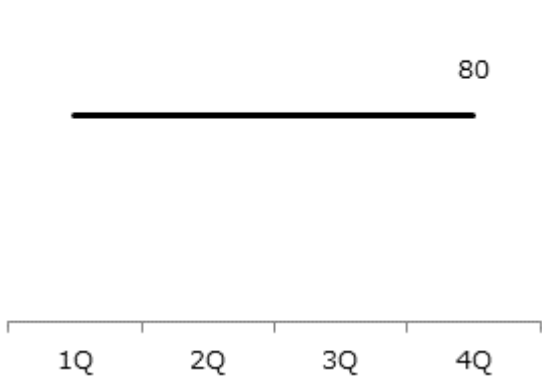


<Safety-7> Completion rate of preventive measures within deadline



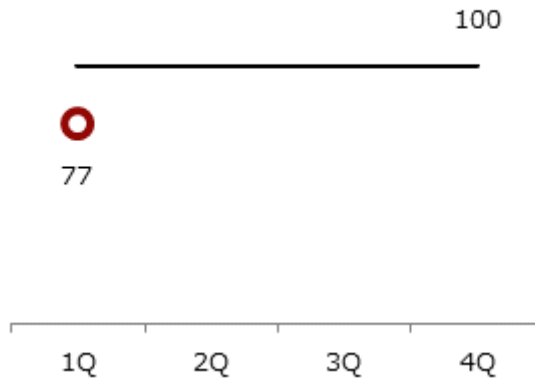
■ Ability to Promote Dialogue/External Communication

<Dialogue-1> Results of questionnaire on communication



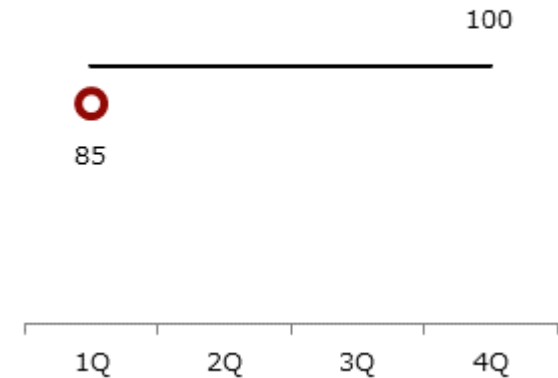
Target: 80% affirmative attitude towards disseminated messages

<Dialogue-2> Progress rate of activities to promote dialogue aimed at deepening relationships



Target: 100%

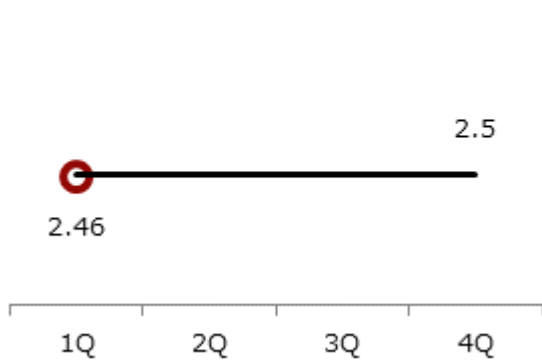
<Dialogue-3> Assessment of questionnaires on each type of activity to promote the ability to engage in dialogue



Target: 100%

■ Ability to Promote Dialogue/Internal Communication Training

<Dialogue-4> Degree of understanding of information sharing emails

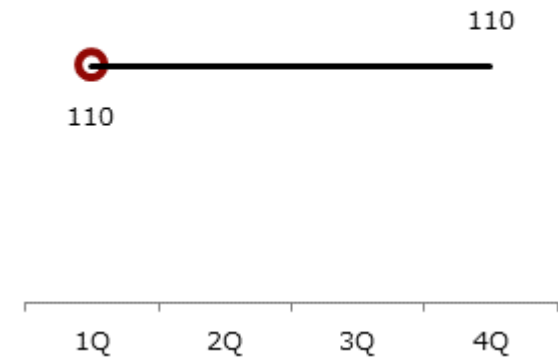


Target: 2.5 points

■ Technological Capability/Education &

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<Technology-1> # of skills certifications/# of external certification holders



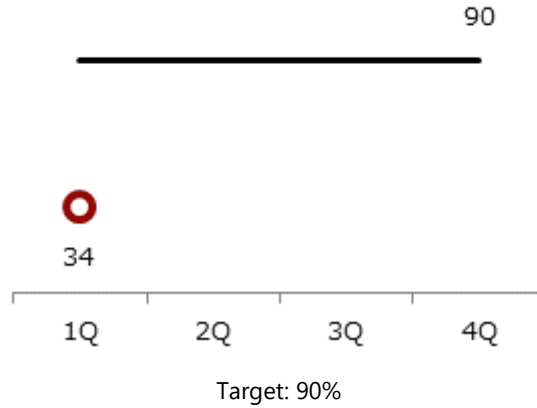
Target: 110 points

■ Technological Capability/Emergency Response

<Technology-2> Training participation rate of personnel that handle large-scale damage and severe accidents

Unimplemented
Target: 80% Monitored: KK

<Technology-3/Safety-3> Training participation rate



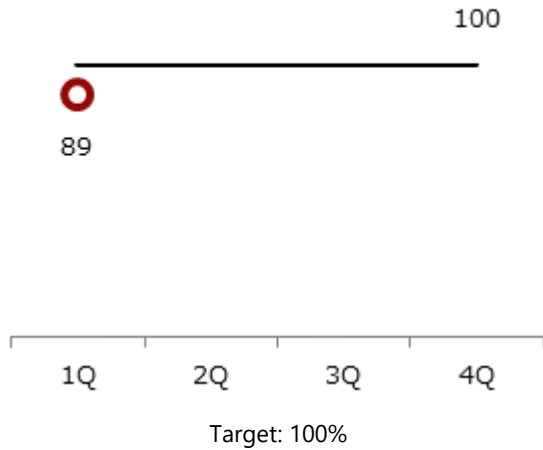
<Technology-4> Feasibility of operations to counteract a severe accident

Unimplemented
Target: 90% Monitored: KK

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■ Technological Capability/Emergency Response (Continued)

<Technology-5>
Rate of accurate notifications given during training



Conclusion

We hope that you have gained useful information from the “Special Issue ~How has the way we work changed?” that has been included in this report to shed further light on a specific topic. In this “Special Issue,” nuclear leaders, such as the Nuclear Power & Plant Siting Division General Manager, involved in the creation of the Management Model, which was created as a road sign to direct how work is performed in the Nuclear Power Division, discuss the topic at hand in their own words along with power station personnel who are directly involved in these initiatives, and experts from outside the company to assist with maintenance and activities to enable the Management Model to permeate throughout the organization. With firm resolution to, “keep the Fukushima Nuclear Accident firmly in mind; we should be safer today than we were yesterday, and safer tomorrow than today, and become an operator that continues to create unparalleled levels of safety,” we continue to promote nuclear safety reforms while subjecting ourselves to objective assessments by the Nuclear Reform Monitoring Committee.

Please visit our website if you have any opinions and comments about nuclear safety reforms.



Abbreviations

CFAM.....	Leader at the Head Office that aims to achieve the world's highest level of excellence for each aspect of power station operation (Corporate Functional Area Manager)
CAP	Corrective Action Program
CPR	Corporate Peer Review
EAL	Emergency Action Level
ERC	Emergency Response Center
FSA	Focused Self-Assessment
KPI.....	Key Performance Indicator
LCO	Limiting Condition for Operation
MO	Management Observations
OE data.....	Operating Experience
PDCA	Plan-Do-Check-Act management cycle
PI	Performance Indicators
PICO.....	Performance Improvement Coordinator
PRA	Probabilistic Risk Assessment
RIDM	Risk Informed Decision Making
ROP.....	Reactor Oversight Process
SAT	Systematic Approach to Training. Standard education and training method proposed by the International Atomic Energy Association (IAEA)
SFAM.....	Site Functional Area Manager. CFAM counterpart at power stations
SNS	Social Networking Service
Traits.....	10 Traits and 40 behaviors indicative of robust nuclear safety culture
VR.....	Virtual Reality
WANO.....	World Association of Nuclear Operators



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