

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.

T1



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?

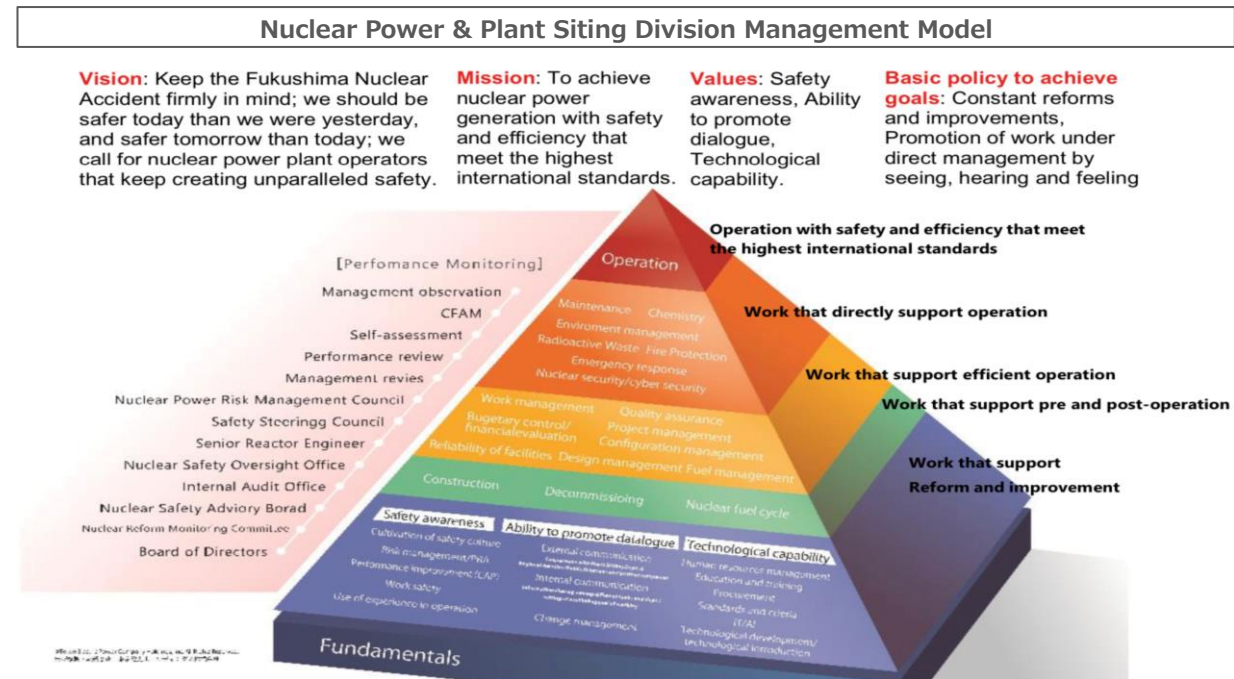
The Management Model is an internal document created to stipulate “how work is to be done” in order to achieve the world’s highest levels of safety and work quality.

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.



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

T3



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?

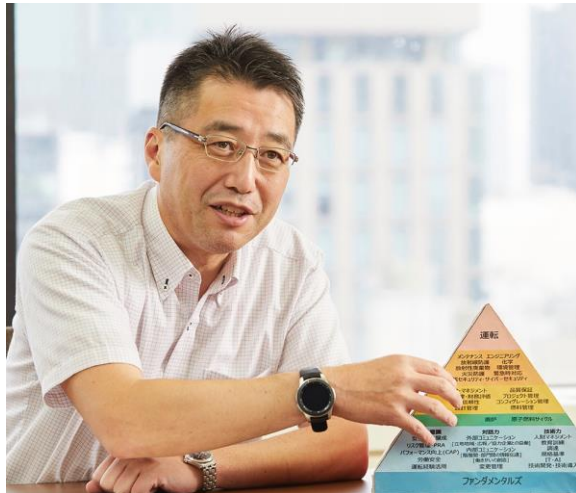
In regards to nuclear power generation, we have a long history, lots of manuals, and practices that have become customary. However, it is extremely important that we re-examine these practices to confirm that they are indeed meaningful, and



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.

Our awareness and how we perceive our jobs have steadily changed through permeation of the Management Model



T5



Nuclear Power & Plant Siting Division
Nuclear Safety Management Department General Manager

Fukashi Watanabe

I want the Management Model to be a compass for reforms

We began nuclear safety reforms in March 2013 with the announcement of our Nuclear Safety Reform Plan, and reviews by overseas parties that followed pointed out such issues as the lack of a consistent strategy as an organization, vague roles and responsibilities, and the lack of mutual coordination. That's why we launched the Management Model project in July 2016 and began constructing the Management Model in order to have an

integrated mechanism by which the entire Nuclear Power Division could carry out work processes.

When creating the Management Model, we thought it most important to “never forget the Fukushima accident,” which is the resolution we have put forth in the Nuclear Safety Reform Plan. Our vision, which lies at the top of the model, is 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 created the Management Model upon learning from the initiatives of outstanding nuclear operators overseas. However, we can't just incorporate overseas initiatives as they are, we must value our own merits. However, prior to the disaster, we took pride in the thought that we were a world leader and lacked the motivation to learn. So, we thought about how to balance the two. The Management Model we created is a pyramid with operations at the top. One of the most important aspects of the model is that its foundation is comprised of Fundamentals, which refers to the behavior and conviction that employees must have when engaging in their duties. We were the first company in Japan to create such a model.

Up until this point we had implemented reforms after

something had happened, but we became personally motivated to never let an accident like Fukushima happen again. So, we engaged in creation of the Management Model with the intent of, “creating a Management Model that can be used as a compass for moving forward with reforms regardless of who was leading.”

The response felt today, three years after creation

The Management Model isn't something we made and just forgot. In particular, since we are talking about “management,” it was important that the model permeated throughout power station superintendents and group managers. That's why we focused on peer activities that center around CFAM/SFAM※. The most outstanding examples in each area are compared with how we engage in tasks today, and analyzed for gaps. Then, a yearly improvement plan is created and the details of that plan are incorporated into work plans. We also incorporated monitoring functions into every aspect of our work to create a mechanism that can enable multifaceted improvement of performance.

Each and every person needs to identify gaps in their daily tasks and make never-ending improvements. That will lead to permeation of the Management Model and enable us to keep our resolution to never forget the

Fukushima Nuclear Accident, as stated in the Nuclear Safety Reform Plan.

It's been three years since the Management Model was created in June 2017. At current time, I think that group managers at power stations understand the Management Model. Various things have changed over these three years, and we have revised the Management Model this year as a result. We have come to receive consistent reviews by overseas parties, but we will continue activities to enable the Management Model to permeate through all levels of the company.

※CFAM (Corporate Functional Area Manager: HQ) /SFAM (Site Functional Area Manager: power stations) : Leaders of activities aims to reach the world's highest levels of safety and each functional field of the Management Model.

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.

T6



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

T7



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

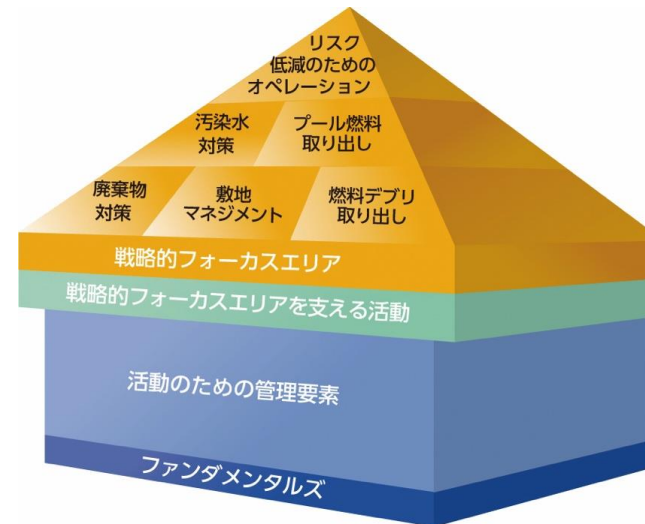
The Decommissioning Management Model has inherited the spirit of the Nuclear Safety Reform Plan and puts forth a vision based upon "our resolution." It also has the same values in regards to safety awareness, technological capability, and the ability to promote dialogue, and takes the same direction 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

T9



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



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 simultaneously 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.

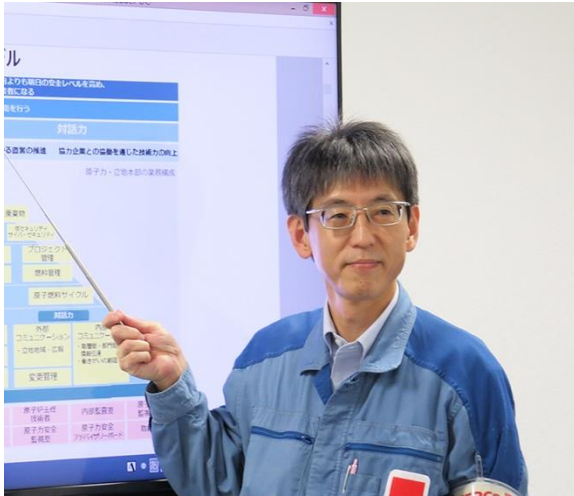
However, many site personnel were uneasy about this sudden change in our objective from operation to decommissioning. That’s why we’re moving forward with decommissioning after establishing four working groups made up of site personnel volunteers as well as the Fuku-ni Future Committee, which was established 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



T13



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



T15

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 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



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

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.

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.

T19



Continue to improve and make that
part of corporate culture

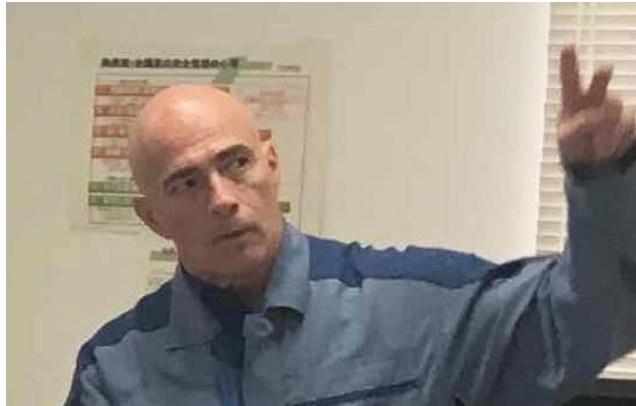
Mr. Roy Harter

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

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!

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.