

Nuclear Reform Progress Status

September 30, 2022

Tokyo Electric Power Company Holdings, Inc.

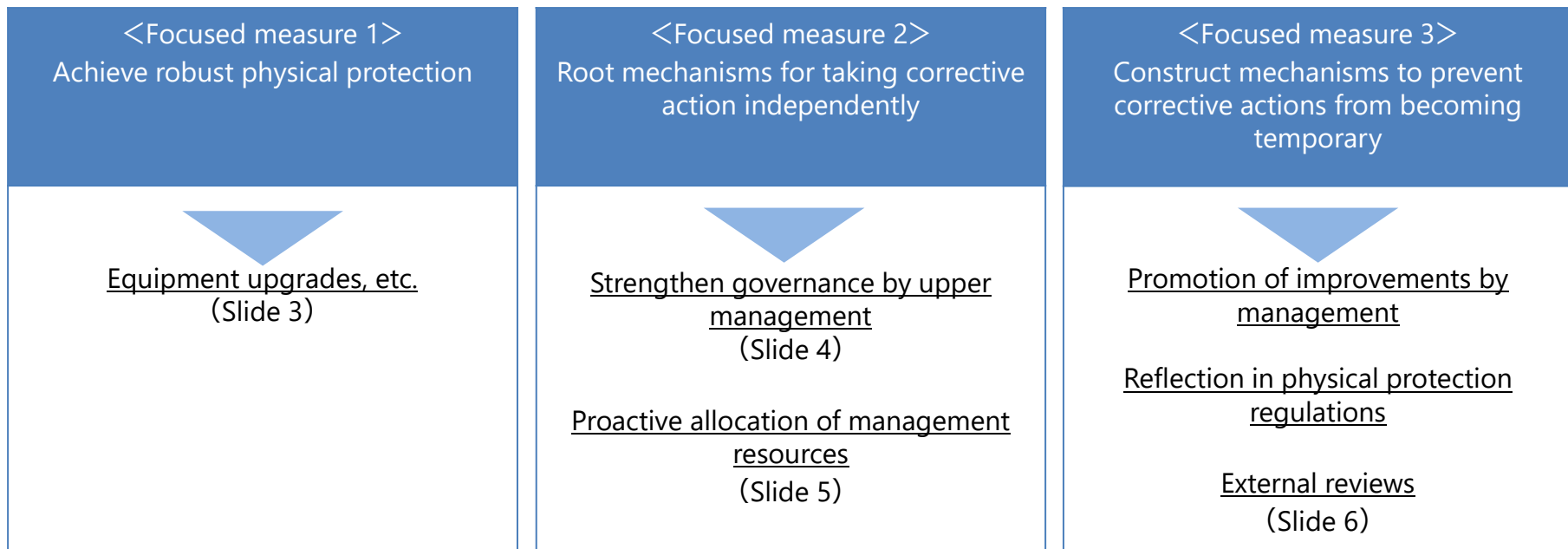
- An Improvement Action Report pertaining to the physical protection incidents that occurred at the Kashiwazaki-Kariwa Nuclear Power Station was submitted to the Nuclear Regulation Authority on September 22, 2021, and recurrence prevention measures are being successively implemented.
- As we approach the first year of the submission of the Improvement Action Report we would like to explain how we are addressing physical protection issues and also the status of progress with nuclear reforms.
 - 1. Status of progress of measures to address physical protection issues**
 - 2. Status of progress of nuclear reforms**

1. Status of progress of measures to address physical protection issues

1-1. Status of progress of measures to address physical protection issues 【Summary】

- We have **transitioned to the implementation stage for all 36 of the corrective actions mentioned in the Corrective Action Plan** pertaining to physical protection issues (*refer to the next page) and **effectiveness assessments of most measures have begun.**
 - ⇒ Measure effectiveness, and the degree to which physical protection problems have been alleviated, are being examined
- In accordance with additional inspections, these measures will be **continually revised while receiving advice** from the Nuclear Regulatory Agency
- Based on the three focused measures※ presented on September 14, we are promoting **"continual equipment reliability improvements," "involvement of upper management with rooting actions designed to bring about change," and "construction of mechanisms to prevent corrective actions from becoming temporary."**
 - ⇒ Slides 3~6 provide information on the status of each focused measure
- After the effectiveness of countermeasures to prevent false alarms during the winter have been assessed, **we shall compile a report on the effectiveness of all 36 corrective actions**

※ Three focused measures authorized by the Nuclear Regulatory Agency on September 14 and the direction of action taken by TEPCO to address these issues



1-2. Status of progress of the 36 corrective actions mentioned in the Corrective Action Plan

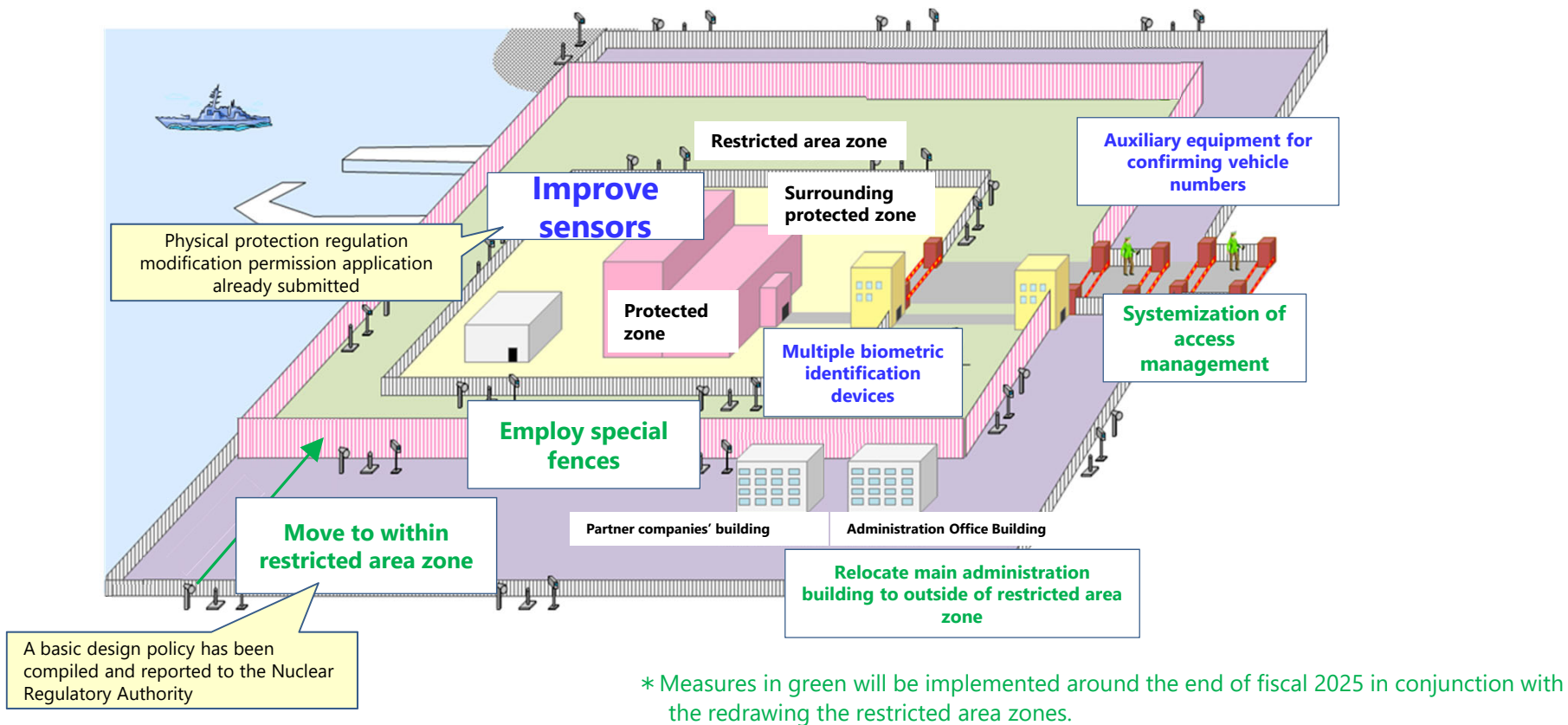
No.	Corrective action	No.	Corrective action
①	Rebuild physical protection governance	⑱	Create equipment maintenance teams
②	Improve monitoring processes	⑳	Revise the change management process and create educational programs
③	Strengthen physical protection education (for management, etc.)	㉑	Create maintenance plans (inspection plans, replacement plans)
④	Strengthen physical protection education (Protection Division)	㉒	Clarify rules for substitute measures
⑤	Strengthen physical protection education	㉓	Clarify repair periods for restoring function
⑥	Revise policies for cultivating nuclear security culture	㉔	Create basic manuals, etc.
⑦	Messages from company leaders and activities to ensure that those messages permeate throughout the company	㉕	Increase the number of personnel in the Physical Protection Division
⑧	Roundtable meetings/dialogue with management	㉖	Revised security field functions/responsibilities, etc.
⑨	Improve the ability of managers to ascertain actual field conditions and the actual condition of equipment	㉗	Create policy for disclosing information on inappropriate incidents
⑩	Elicit opinions about nuclear security	㉘	Continue mutual reviews by other electric companies
⑪	Initiatives for ascertaining to what degree nuclear security has been understood/improved	㉙	Improve communication between the Protection Division and other power station departments
⑫	Confirm the competence of operators/watchmen	㉚	Redraw restricted area zones
⑬	Validate identity when allowing reregistration of biometric data in the field	㉛	False alarm prevention measures for intruder detection equipment
⑭	Introduce additional biometric identification equipment	㉜	Improve manuals in accordance with field conditions
⑮	Surprise training for watchmen	㉝	Clarify "Kashiwazaki-Kariwa's Purpose (reason why it should exist)"
⑯	Alleviate congestion at gates	㉞	Develop/strengthen risk management
⑰	Strengthen mechanisms for providing support to Protection Headquarters	㉟	Provide training on the Fukushima Daiichi Nuclear Power Station Accident
⑱	Strict management of ID cards	㊱	Self-assessments/third-party assessments

 : Actions that are already being implemented

Red: Actions that have transitioned to the implementation stage since they were announced on March 30, 2022

1-3. Addressing Focused Measure 1 (Achieve robust physical protection)

- In order to prevent unauthorized access and authorization errors **multiple pieces of biometric identification equipment** have been installed and **auxiliary equipment for confirming vehicle numbers** has been installed as an additional countermeasure to aid with security duties (being implemented)
- **Sensors have been replaced with improved sensors that match natural environmental conditions as a measure to improve detection functions (false alarm countermeasures)** (being implemented)
- In conjunction with the redrawing of restricted area zones, **protection systems**, such as access management systems, etc., **are being built to further improve security.** (Plan)



1-4. Addressing Focused Measure 2 (Root mechanisms for taking corrective action independently)

- **Upper management will frequently go into the field and check the situation of physical protection while directly providing assistance.** Under the leadership of upper management, **mechanisms for promoting improvements with physical protection tasks shall be constructed**
 - ⇒ Nuclear Security Committee newly established under the supervision of Nuclear Power & Plant Siting Division General Manager Fukuda (Established in May 2022. Meets four times a year)
- **Creation of Basic Policy for Cultivating Nuclear Security Culture** for upper management/power station executives, workers engaged in physical protection duties, and power station personnel. **The policy shall be presented and continuous efforts made to make everyone aware of it.**

【Field checks/dialogue by upper management/power station executives】



Field check by President Kobayakawa



Improving the intruder detection environment by cleaning up site areas (Nuclear Power & Plant Siting Division General Manager Fukuda)



Greeting employees as they come to work (Site Superintendent Inagaki)



Dialogue with site personnel (Security Management Department General Manager Horikawa)

【Poster showing basic policies for each role】

核セキュリティ文化醸成の基本方針/活動指針
(対象：発電所所員全員)

- ① 自らを証明する責任**
・ 証明書類の掲示と施設保管
- ② 異常を見逃さない責任**
・ 相互の声掛け
・ 速やかな通報
- ③ 警備員、治安組織の尊重**
・ 許可証類のわかりやすい提示
・ 手荷物検査・洗滞緩和への協力
・ 警備員への挨拶

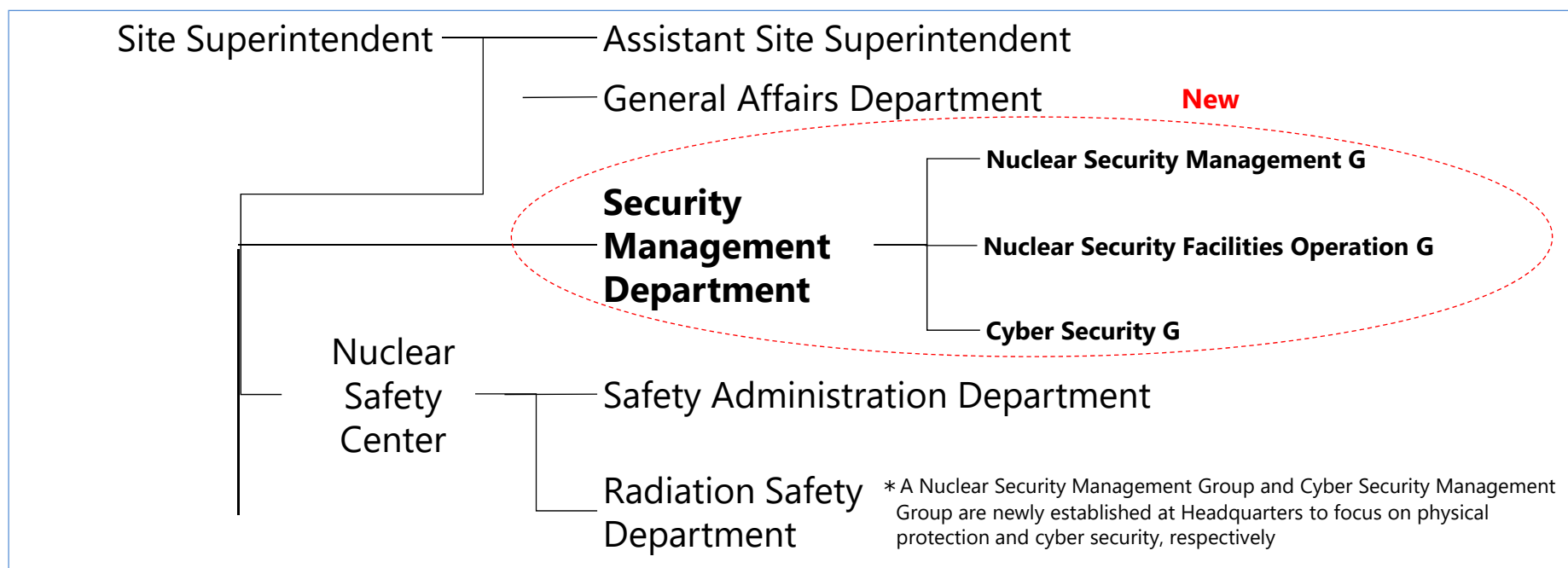
TEPCO

1-5. Addressing Focused Measure 2 (Root mechanisms for taking corrective action independently)

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- **A Security Management Department** has been established at the power station in order **to manage/oversee general nuclear security** (refer to the diagram below)
- Revisions to physical protection personnel assignments at Headquarters and power stations (planned for October 2022)
 - The number of physical protection personnel at Headquarters and power station will be **increased by approximately 30 people.**
 - **Nine people from outside the company with experience and knowledge of physical protection have already been assigned. Two more will be hired.**
- **Equipment budget** will be increased **from more than ¥20 billion** (as of March 2022) **to approximately ¥58 billion**
 - **Protection equipment** related to restricted areas on revisions, including the location of the administration office building, **will be strengthened**

【 Establishment of Security Management Department at the power station】 (in May 2022)



1-6. Direction of Addressing Focused Measure 3 (Construct mechanisms to prevent corrective actions from becoming temporary)

- **Upper management shall quickly recognize signs of degradation and issues, respond quickly and properly, and be involved in rooting and promoting corrective action.**
- As with the "seven basic responsibilities of a nuclear operator" noted in the safety regulations, **basic responsibilities shall also be reflected in the physical protection regulations.**
- **Continually make improvements by incorporating the opinions of external experts**
 - Address security-related suggestions made by the Nuclear Security Expert Assessment Committee
 - Address management-related suggestions made by the Nuclear Reform Monitoring Committee

[Reference: Status of measures to address suggestions made by the Nuclear Security Expert Assessment Committee]

	Suggestion	Status of handling
1	Promote communication and mutual understanding/cooperation between the inspecting party and the party being inspected	✓ We are deliberating a mechanism by which opinion exchanges between the physical protection managers at primary contractors and employees are regularly held
2	Promote the standardization of ID cards	<ul style="list-style-type: none"> ✓ ID cards will be standardized during the next system upgrade since detailed confirmation of regulatory requirements and equipment changes will be necessary. ✓ We are deliberating how to move up the system upgrade period as much as possible
3	Strengthen education for the physical protection departments and train executives to have a natural disposition for nuclear security	<ul style="list-style-type: none"> ✓ We have identified the knowledge and skills required of each role and position, and are implementing education accordingly ✓ We are implementing joint training and communicating on a daily basis with safety-related agencies in order to improve our ability to respond to various situations
4	Further promote false alarm countermeasures	<ul style="list-style-type: none"> ✓ We are analyzing and addressing the causes of false alarms in cooperation with vendors ✓ We are in the process of upgrading and optimizing sensors after examining the latest technological trends and optimal installation environments
5	Engaging in "All TEPCO" improvements	✓ All employees have been subjected to training that focuses on the lessons learned from the physical protection incidents at the Kashiwazaki-Kariwa Nuclear Power Station , and such training shall continue into the future

2. Status of progress of nuclear reforms

2-1. The current state of safety measure renovations and the ideal state that the Kashiwazaki-Kariwa Nuclear Power Station aims to achieve

- The first round of **general inspections** performed in light of the discovery of incomplete safety measure renovations at the Kashiwazaki-Kariwa Nuclear Power Station **were completed on September 20** (a total of 107 four-type incomplete renovations were found)
- **Corrective action shall be taken as necessary** for any additional issues found during pre-use operator inspections
- Based on the nuclear reforms, steps will be taken to ensure that the reforms at the Kashiwazaki-Kariwa Nuclear Power Station implemented **do not become temporary, and we shall continue to pursue safety**



<The ideal state that the Kashiwazaki-Kariwa Nuclear Power Station aims to achieve>

- (1) Ensure that each corrective action measure to address physical protection issues is sufficiently effective**
 - Ensure that focus is put not just on equipment but also on how equipment is used
 - Fast and accurate supervision mechanisms
 - Eliminate the feeling of isolation amongst protection shift members
- (2) Complete safety measure renovations and ensure that all equipment is functioning sufficiently**
 - Complete safety measure renovations and pre-use operator inspections
 - Confirm the integrity of primary components such as emergency diesel generators and sea water cooling systems that have not been used for long time
- (3) Ensure that we have sufficient ability to respond to emergencies**
 - Severe accident scenario training should be used to confirm that we can continuously and accurately respond to emergencies
 - Power station personnel engaged in operations and maintenance should be able to perform their duties with confidence
- (4) All people that work at the power station should be able to communicate smoothly**
 - Cultivate a sense of unity based on our "purpose" to ensure that communication between upper management, site personnel and contractors is lively

2-2. Improving the ability to respond to emergencies (to provide regional residents and society with peace of mind)

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< Primary examples >

- ① Safety messages from the Site Superintendent and lectures on the lessons learned from the Fukushima Daiichi Nuclear Power Station Accident
- ② Continual training to strengthen the ability to respond to foreseen natural phenomena and nuclear accidents (⇒Refer below)
- ③ Operator training (⇒Refer below)

② Primary training to improve accident response capabilities

- **General training** using severe accident scenarios has been conducted **more than 140 times** **Individual training in the field** has been conducted **more than approximately 27,000 times**

※ As of the end of September 2022, and starting after the Fukushima Daiichi Nuclear Power Station Accident

- **Coordination with outside organizations**, such as firefighting training with local fire stations (twice a year)



General training in the ERC



Joint firefighting training with local fire stations

③ Operator training

- **70 days of plant simulator training per year**
- **120 days a year of training that combines field training and simulator training** in order to handle severe accidents
- We plan to recommence training at thermal power stations



Simulator training



Field training that envisions a loss of AC power

2-3. Communication between all workers at the power station

- The **"Purpose of the Kashiwazaki-Kariwa power station"** was announced in May of this year as a promise and also an ideal state for which all workers at the power station should aspire to achieve. We aim to cultivate a sense of unity within the power station through activities designed to put this "purpose" into practice.

< Examples of activities to put the "purpose" into practice >

- Continuous dialogue with station personnel and understanding/empathy of the "purpose" activities shall be engaged
- Greeting personnel as they come to work and creating opportunities to "praise and be praised" (started after being proposed by Assistant to the Site Superintendent of the power station, Mizutani)
- Regional symbiosis activities are engaged in for cooperation by power station and headquarter employees (78 times this fiscal year, approximately 827 participants *as of the end of September)



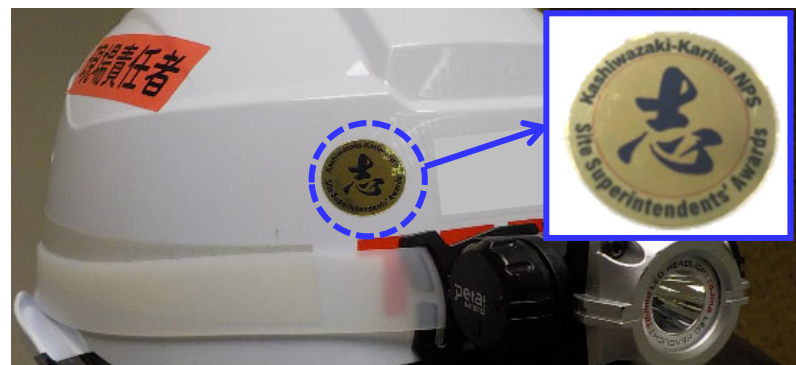
Promoting understanding and empathy of the "purpose" through dialogue



Greeting workers at the power station



Regional symbiosis activities to reaffirm our connection to the community



Award sticker for creating opportunities to "praise and be praised"

2-4. Employing external personnel

- In April of this year, Mr. Fukuda (TEPCO OB) was appointed as Nuclear Power & Plant Siting Division General Manager and Mr. Mizutani (Chubu Electric OB) was appointed as Assistant to the Site Superintendent of the power station
- **10 external experts** from various fields (Former self-defense force personnel, former policeman, OB from other electric companies, former firemen, and other agencies) **have also been assigned**
 - Police: Along with **security guidance, guidance and advice on strengthening the power station's security system**
 - Fire department: **Field guidance on hazardous materials and open flame work, and technical guidance for in-house fire brigades**
- **Two more external personnel (Former self-defense force personnel, etc.) shall be newly hired in October** of this year

< Appointees as of September 30 (including those announced on March 30) >

● Nuclear Power & Plant Siting Division General			● Experts in each field			
Former agency	Name	Deployed location	Former agency	Number of people	Deployed location	Affairs managed
TEPCO OB	Toshihiko Fukuda	UK Bldg. (Kashiwazaki City)	Self-Defense Force	2	Headquarters	Physical protection
			Police	5	Kashiwazaki-Kariwa Nuclear Power Station	
			OB from other electric companies	1		
			OB from other agencies (to be appointed after September)	1		
Chubu Electric OB	Ryosuke Mizutani	Kashiwazaki-Kariwa Nuclear Power Station	Fire department	1		Fire protection

< To be appointed after October 1 >

● Area of expertise			
Former agency	Number of people	Deployed location	Affairs managed
Manufacturing (air-conditioners/housing equipment)	1	Kashiwazaki-Kariwa Nuclear Power Station	Physical protection
Self-Defense Force	1	Fukushima Daini Nuclear Power Station	Physical protection

- Communication booths and newsletters are used to convey the status of progress of nuclear reforms and the status of daily power station initiatives to regional residents. Videos media will also be utilized in the future.
- Along with conveying the opinions received from regional residents to power station personnel, we discuss and consider improvements on site as necessary. Such achievements are showcased in newsletters as "examples of improvements spurred by regional residents opinions".

Carefully listening to the opinions of residents at communication booths



- Number of times held: 96
- Location: Each city, town and village in the Prefecture
- Total number of visitors: 19,841
- ※As of September 29, 2022 since start of 2015

Conveying power station conditions through newsletters, etc.



Showcasing examples of improvements spurred by regional residents opinions

皆さんの声から改善しました

発電所では、地域の皆さまから頂いた声を受けて、より良い発電所の運営を行うための改善活動を行っています。その一例をご紹介します。

改善 2021年12月より新規・更新の入構証は、有効期限を大きく印刷するよう変更しました。なお、入構証の有効期限は、所持者本人と所属会社の責任者による管理を徹底しており、有効期限切れの対策として、一人ひとりチェックをする際にシステムも利用する運用に変更するなど厳正な確認を実施しています。

発電所の入構証に記載されている有効期限の記載が小さく、警備員が確認しにくいのではないのでしょうか。もっと大きく表記するように変更してみました。(2021年5月)

今後も皆さまからのご意見を発電所運営に活かしてまいります。

入構証イメージ

皆さんの声から改善しました

発電所では、地域の皆さまから頂いた声を受けて、より良い発電所の運営を行うための改善活動を行っています。その一例をご紹介します。

背景 電害発生の恐れがある際には、発電所の重要な施設や設備に飛来物が衝突することを防ぐため、発電所構内への車両の入構を制限(発電所の正門を封鎖)する必要があります。

改善 電害が発生する予兆を把握した時点で、正門を封鎖する準備として警備員によるサービスポール駐車場等への誘導を開始することで、正門から周辺道路にかけて渋滞が発生させないように運用を見直しました。

(2021年11月に発生した)電害警報による発電所の入口封鎖に伴う渋滞が、周辺道路まで影響が出ていた。発電所の安全を確保するためとは分かっているが、改善はできないか。

今後も皆さまからのご意見を発電所運営に活かしてまいります。

Site personnel response to the opinions from regional residents

- ✓ It made me feel strongly that I can't betray the trust and expectations of regional residents
- ✓ I take the opinions of regional residents seriously and will work to regain their trust
- ✓ It made me feel very happy that there are people that realize that we're striving to change
- ✓ Hearing how grateful people were during symbiosis activities made me want to participate
- ✓ I felt the importance of listening to criticism

2-5. Issues to examine into the future (Transferring/ Integrating and Reorganizing Headquarter functions)

- **Headquarters and power stations shall work as one to cultivate corporate culture and create a company that can be trusted by the siting region and society**
- **Headquarter functions necessary for the Kashiwazaki-Kariwa Nuclear Power Station will be gradually transferred in accordance with changes at the power station**
 - As of the end of May of this year, required functions and personnel (64 people) have been transferred
 - Improvement actions will not be temporary and we shall continually pursue nuclear security and safety
- **We have started to deliberate integration and reorganization of headquarter functions for Fukushima Daiichi and Fukushima Daini nuclear power stations**
 - We are examining a system for further "site-oriented operations" at both power stations engaged in "decommissioning" from the perspectives of ensuring nuclear security functions and safety of operations, and coexistence with the siting region community through decommissioning projects

< Environment preparations in the vicinity of the Kashiwazaki-Kariwa Nuclear Power Station >

- **The following working and living environments shall be prepared by the end of FY2026**, and eventually **approximately 300 employees** will be relocated (sequentially)
 - Office for approximately 200 employees will be built near Kashiwazaki Station (An HQ ERC will also be built)
 - Office for approximately 100 employees will be built on the power plant premises
 - Expansion and renovation of current company housing to improve living environment

Month/Year Issue	November 2021	May 2022	~FY2026
Number of people relocated (total)	16	64	Approximately 300
Assigned location	Power station	Power station, office (UK building)	Power station, office (near Kashiwazaki station)
Transferred function	Reform promotion, project analysis, cost analysis, training, etc.	Quality/safety, schedule management, equipment diagnostics, etc.	Design-related (related to future construction work on site)

※ As of September 2022, approximately 1,200 employees are working at the Kashiwazaki-Kariwa Nuclear Power Station