## Steady implementation of the JR-West Group Railway Safety Think-and-Act Plan 2022

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The JR-West Group Railway Safety Think-and-Act Plan 2022, which was inaugurated in fiscal 2019, was formulated as a plan to pursue safety by going back to first principles, and it was motivated by a desire to ensure that we will never again allow an accident such as that on the Fukuchiyama

On the basis of fostering the spread of safety-first awareness, we will work over a five-year period to enhance railway systems that maintain safety by enhancing organizational safety management and practicing safety think-and-act initiatives by each individual. By realizing safety management with all employees participating, we will strive to prevent serious incidents and labor accidents.

#### The objectives of the JR-West Group Railway Safety Think-and-Act Plan 2022, and progress under the plan

Objectives			FY2019 results	FY2020 results	FY2021 results	
Objectives over the 5 years through FY2023	Train accidents that result in casualties among our customers	Zero	0	0	0	0
	Train labor accidents that result in fatalities among our employees	Zero	0	1	0	0
FY2023 objectives Further 10% decrease from objective in Safety Think-and-Act Plan 2017	Train accidents involving people that result in casualties among our customers <sup>2</sup>	Further 10% reduction	9	11	8	5
	Accidents at level crossings	Further 10% reduction	22	24	17	11
	Transportation disruptions due to internal factors	Further 10% reduction	126	170	167	145

- 1 Further 10% decrease from the objectives achieved in Safety Think-and-Act Plan 2017
- 2 An expansion of scope from the objective "Train accidents with casualties on platforms" in Safety Think-and-Act Plan 2017

#### JR-West Group Railway Safety Think-and-Act Plan 2022 Safety management with all employees participating Each employee considers specific risks To ensure the safety of not only customers but also fellow Group employees, each JR-West Group employee must take a moment to think with regard to potential risks. Only then can we ensure that our decisions and actions prioritize safety above all else. Enhancement of railways systems that maintain safety ■Maintenance-related investments to ■Compliance with subjective rules and ensure upkeep and improvement of improvement of technical capabilities current facilities' functions **Object-Based Policy-Based** ■Investments and technological ■Establishment of measures to effectively developments for increased safety levels reduce worker-caused errors ■Investments for reduced labor through ■Improvement of response flexibility with **Enhancement of organizational** Implementation of safety safety management nink-and-act by each individua ■Creation of an environment that facilitates ■Improvement of quality of risk assessment reporting of problems/concerns ■Enhancement of safety management ■Establishment of self-management and self-improvement practices ■Development of means to establish and ■Implementation of measures that can be maintain realistic rules enacted as a group ■Understanding and putting into practice efforts developed in the wake of the derailment accident on the Fukuchiyama Line as well as ■Improvement in sensitivity to safety and development of judgmental skills and actions that prioritize safety

Fostering the spread of safety-first awareness

8. Decent work and economic growth 9. Industry, innovation and infrastructure

10. Reduced inequalities

- 11. Sustainable cities and commu
- 13. Clime action



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#### Instilling an awareness of safety as the top priority

Every person in the JR-West Group will keep the derailment accident on the Fukuchivama Line foremost in their minds and. with an understanding of safety-related policies, will increase their awareness of safety by considering risks in a concrete manner. By taking real action without hesitation, such as halting trains

and stopping work when we feel that a situation may be dangerous or when safety cannot be confirmed, we will create a culture that prioritizes safety.

#### Example initiative Implementation of "odor" experience training (Fukuchiyama Rolling Stock Unit, Fukuchiyama Branch)

At the Fukuchiyama Rolling Stock Unit, we conduct "odor" training to teach people to detect the odors that can be sensed in the initial stages of an abnormality, training our staff to notice malfunctions in rolling stock at an early stage.

Specifically we have our staff and those of Group Companies experience the odor emitted when the oil and grease used in areas where parts come into contact with each other such as gearboxes and compressors—heats up, allowing these

staff to assess and respond appropriately when they encounter a strange odor.



A soldering iron (battery-operated

We are doing our best to ensure that this initiative increases the value of employees' experience

Tomoya Honda

Rolling Stock Management Staff, Fukuchiyama Rolling Stock Unit, Fukuchiyama Branch (Now the Transportation Section, Fukuchiyama Branch)

In conducting this training, we do our best to educate staff in a manner that increases the value of their experience in advance, to prevent them from falling into the trap of being overconfident about their abilities in an emergency.

Although staff who undergo this training are used to smelling oil and grease itself, they have almost never smelled their odor when heated, so they engage in the classes with interest. We have also created documents with photographs of the equipment and the oils used in it to give participants a better idea of what is involved, organized in a way that makes it easy to understand where a problem has occurred when they detect an odor.

Rather than restricting this initiative to staff at our office, we opened it to staff from other locations and to train operators in yards from other Group Companies. To that end, we embarked on a range of undertakings, including creating a kit to provide experiences of

unusual odors, featuring individually bottled oils that can be heated immediately. Looking to the future, we hope to increase the number of substances we use, including fats, oils, and rubbers, as we continue in our endeavors.





We will work to use this training to make the right decisions and take appropriate action

> Ryota Imafuku Rolling Stock Management Staff, ukuchiyama Rolling Stock Unit, Fukuchiyama Branch

Participants in odor training were able to experience the smells of oil and grease in a normal state used in vehicles and to compare them to the odors of oil and grease in an unusually heated state. We plan to use the knowledge acquired through this training

experience to make the right decisions and take appropriate action when we encounter an unusual odor.



Experience-based training equipped us to make an assessment when a problem occurs

> Daisuke Adachi Assistant manager, Train Operation Unit, JR West MAINTEC Fukuchiyama Branch

I am responsible for operating trains inside the train depot and inspecting rolling stock before people drive it, and so I took part in the odor training at the Fukuchiyama Rolling Stock Unit. In the normal course of my work, I never notice the smell of the rolling stock, but smelling the heated oil and grease let us experience how rolling stock are when they are in an abnormal state

Since different oils and greases are used in different areas of rolling stock, experiencing the odors that different kinds of oils make when heated gave us the knowledge to make an assessment when a malfunction occurs.

Assistant manager Daisuke Adachi (third from left)



19 West Japan Railway Group Integrated Report 2021 West Japan Railway Group Integrated Report 2021 20 To improve the functions of railway systems for maintaining safety, we are constructing organization-wide mechanisms to ensure safety, such as safety management systems and risk assessment,1 implemented at the managerial, technical and operational levels, based on an awareness of safety as the top priority. We also work to ensure that these mechanisms function effectively, without

deterioration over time, and are continuously enhanced. Specifically, we will improve the quality of risk assessments, which help to prevent serious incidents and labor accidents, and construct systems for safety management reviews,2 and then utilize a PDCA cycle to improve these continuously.

#### Example initiative Using ISSM data to grasp trends in periods of high passenger volumes (Okayama Driver's Unit, Okayama Branch)

In the Okayama Driver's Unit, ISSM<sup>3</sup> data is used for the following initiatives to prevent human error and minimize risk during periods of high passenger traffic (the Golden Week period in May, the Bon festival period in August, and the year-end and New Year holidays).

- (1) Analyzing trends derived using ISSM regarding events occurring during the year-end and New Year holidays over the past five years
- (2) Establishing initiatives for teams, led by assistant managers, to conduct in each area, deliberately held during periods of high passenger traffic
- (3) Surveying all drivers to identify lines, trains, and inter-station areas where drivers are liable to be careless, and suggest possible precautions
- (4) Holding "Meister Meetings" where leaders of each team evaluate the content of (1) to (3) above and post the results to bulletin boards and tablets at their respective locations



Discussions on near-misses that were the results of combinations of trains, inter-station areas, and environmental factors, and on how to deal with these



After Meister Meetings, the results are posted to bulletin boards and tablets



#### Supporting our drivers wholeheartedly

Satoshi Ono Assistant director, Okayama Driver's Unit, Okayama Branch

We utilized ISSM data to analyze phenomena that occur frequently in periods of high passenger traffic, and we identified items to prioritize in our work. We also listen to the opinions of our drivers and catalog precautions for areas where they say they are liable to be careless, providing a visual representation of these issues and giving drivers an awareness of them, in an attempt to prevent human error and minimize risk.

This effort focuses on encouraging drivers to make these issues their own, and going forward we will support them as we work to reduce human error



#### Consciously communicating with easy-to-understand words

Tsutomu Matsui Assistant manager, Okayama Driver's Unit, Okayama Branch

Before periods of high passenger traffic, we hold Meister Meetings at which we identify specific risks and areas of concern for each route in the locations where drivers are assigned and discuss measures to address these.

The content discussed at these meetings is posted on bulletin boards, using consciously chosen short, easy-to-understand words. We also accompany drivers on trains to reconfirm those areas

that need attention. A thorough review is carried out, examining the positive facets of each period of high passenger volume as well as those that require review, and we intend to use this as a platform to further improve safety for coming periods of high traffic.



1. Risk assessment: The process of identifying, evaluating, and prioritizing risks, and then discussing appropriate measures for all prioritized risks

#### Safety think-and-act by each individual

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Each of us endeavors to report and share information on safety which leads to organizational safety measures—using this information to evaluate and implement self-management.

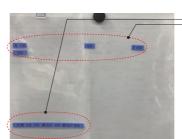
While encouraging and commending the efforts made by every person to improve safety, we publish examples where people have been particularly creative or ingenious at each work site, disseminating them across the organization through work presentations and in-house publications and adopting their ideas as safety measures.

Examples of initiatives Measures to prevent mishandling of signal controls (Takatori Station, Kobe Station Control Area, Kobe Branch, Kansai Urban Area Regional Head Office)

Signals within Takatori station premises are automatically controlled digitally via monitors. When switched to manual control at times of construction work, it was not physically possible to prevent signal mishandling, and thus trains might have been able to enter a construction zone in error

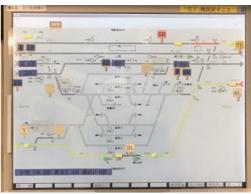
To solve this problem, we set a clear sheet over the monitors and created four slides, one to match each of the tracks in Takatori Station, and then placed stickers on each slide with a list of the signals on the relevant track.

When performing construction work, we place the slide for the line where the construction work will occur onto the clear sheet installed on the control panel, allowing us to check any of the relevant signals visually. This enables us to check visually on arrangements to ensure that no train enters a construction zone, thus minimizing any risks of mishandling. This initiative is also being deployed at other stations.



A list of track names and sociated signals

Stickers with a list of signals are applied to the slide for the track



Slides are overlaid in clear sheets installed on PC monitors



We will continue to use trial and error to improve our awareness of safety

Masashi Mizutani Transportation Management Staff, Kobe Station, Kobe Branch, Kansai Urban Area Regional Head Office

Before this initiative was implemented, we had used the technique of checking with backup personnel to confirm that there were no signals on the screen before beginning construction work. We thus had to rely on people's attention in many areas, and we felt that there was a risk of trains entering construction zones in error. A train car had entered a construction zone at another location, and after considering what could happen at our own station, we considered measures to prevent its occurrence.

To that end, we went through a process of trial and error in which we made prototypes and then improved them based on the opinions of our younger employees who are actually involved with operations, which allowed us to formulate measures for safer handling

When updating the signal control equipment at Takatori Station in the future, we will also need to update this initiative, and thus we will work to identify problem areas again, doing our best to continue our efforts and reduce risk as much as possible. Moreover, we hope to ensure that the significance of our efforts is passed on to new employees and those who transfer to our station.



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<sup>2.</sup> Safety management review: A system under which management reviews and evaluates the construction and improvement of safety management systems, and then revises and improves them as necessary

<sup>3.</sup> Integrated System for Safety Management (ISSM): A searchable database of safety and risk assessment information

#### Building safe and reliable railways that offer peace of mind

# Steady implementation of the JR-West Group Railway Safety Think-and-Act Plan 2022

#### Enhancing railway systems that maintain safety

To maintain the safety of railways, we focus on tangible measures while also seeking to maximize the effect of more intangible measures and to supplement areas where tangible measures alone are ineffective. This combination of both tangible and intangible initiatives is intended to improve the functionality of

our safety-maintaining railway systems.

With regard to intangible measures, we work to prevent serious incidents and labor accidents by ensuring that each one of us understands the reasons and bases for our rules and actively complies with them.

#### Examples initiative Initiatives to learn from accidents using our "Safety Pledge" (Okayama Electric Unit, Okayama Branch)

At safety meetings are held every month at the Okayama Electric Unit, we study accidents that have occurred in the past in other locations and learn about the basis for current handling and rules.

Employees who have studied about past accidents complete "Safety Pledge" training notes on what they felt, things they noticed, things they have questions on, and things they would like to know more about, which they can submit to the unit manager at their own discretion. The unit manager writes their own comments and answers to these notes, resulting in a dialogue that improves awareness and answers each person's questions.







Unit manager Yoshimasa Kawabata (left) and Naoaki Komiyama (right) reflecting on and supporting concrete thinking and actions through the safety pledge

## Sharing our reflections to increase awareness of safety

Naoaki Komiyama

Electrical Management Staff, Okayama Electric Unit, Okayama Branch

At the safety meetings held each month, I write safety pledge training notes about the things I think of and notice, which I submit to the unit manager. This is a chance for me to communicate with the manager, and it has increased the number of opportunities I have to discuss safety.

Moreover, I receive feedback from the unit manager that acts as motivation for me to continue submitting safety pledges.

Every month we set goals to prevent the types of phenomena we learned about in the safety meeting from happening, and the following month we work with the unit manager to review and share areas where we could have tried more changes. Going forward, I hope that we can continue this initiative and further improve our awareness of safety.

## Encouraging people to notice things through dialogue

Yoshimasa Kawabata

Unit manager, Okayama Electric Unit, Okayama Branch

Currently in safety meetings held in the Okayama Electric Unit, we review events that have happened at other locations and companies, writing down things we notice and questions that occur to us during these meetings in safety pledges so that we can reflect them in concrete thinking and actions.

Additionally, we have created opportunities for staff to share their safety pledges with me after the meetings, allowing us to resolve the questions they have written and facilitating communication between supervisors and their subordinates, all the while gathering opinions from employees.

I write my own comments and answers, resulting in a dialogue that improves awareness and answers each person's questions, and it serves as an opportunity to link this initiative to concrete thinking and actions.