



What does a culture that prioritizes operation over safety bring to the railway industry? Don't turn away from the doubts you have in the workplace! Re-establish a safety philosophy of "from pursuing responsibility to investigating the cause" and create a workplace culture that puts safety first!



Vienna, Austria Aula der Wissenschaften



1. From Pursuing Responsibility to Investigating the Cause

The Higashi-Nakano accident led to the International Railway Safety Council

[Higashi-Nakano Accident]

- On December 5, 1988 (A year after the JNR was divided and privatized)
- One driver and
 one passenger
 were killed, over
 100 people were
 injured.



[International Railway Safety Council]

 Hosted by labor union and

management of JR East

Came togetł
31 countries.



Safety philosophy of "from the pursuing responsibility to investigating the cause" became a Global Shared Values



1. From Pursuing Responsibility to Investigating the Cause

"Holding people accountable" is the opposite of safety

"From Pursuing Responsibility to Investigating the Cause"

Facing the workers who caused the accident, Investigate the cause and take countermeasures Since its formation, the JREU has been seeking and practicing "From Pursuing Responsibility to Investigating the Cause"

"Liability Recovery"

- Workers who cause accidents are degraded
- Inability to return to work until testified a story that is convenient for the management
- Other workers who saw it cover up the mistake

"Safety is the top priority of management" they said, however in the past year,

Electrocution

Falling

Near Collision

Occurred one after another! The safety level is declining!



2. Factors behind the decline in safety levels

Technological advances and changes in the workforce (e.g., vehicle maintenance)

Privatized(1987) \sim around 2000

 The vehicle was built of many parts. Disassemble, lubricate, and adjustment were needed frequently It takes a lot of work.



• The workers were able to grasp the weaknesses and key points of the vehicle, and gather and build their knowledge base and skills for repair and restoration.

2000~present

 The vehicle is built of less parts. Due to the fact the vehicle's computer is judge



the quality of the product by itself, workers do not need to acquire know-how.

- Because no familiarity is equired workers are transferred in10 years and motivation is decreased.
- Engineers with knowledge and skills has almost disappeared.

With the evolution of technology, humans can rely on systems but they lack "experience" in the event of a breakdown or accident, and they cannot respond like workers in the past



2. Factors behind the decline in safety levels

Multi-performance through "organizational restructuring" and "integration and collaboration" (e.g., equipment maintenance)

Privatized(1987) \sim around 2000

- The equipment maintenance department had many "administrative zones" in various places
- Inspection and repair worl were carried out under the direct control of JR.

We were able to maintain our technical skills.

• Each zone managed small areas. By fostering a "sense of my own gardening", grasp their special features and habits in detail.

2000~present

- Due to the reduced number of "administrative zones"
- the area one manage become very wide.



- Inspection and repair work are out sousing to partner companies
- A zone must cover and manage wide areas. It is difficult for workers to foster a "sense of my own gardening" and build knowledge base specifically to each area.





2. Factors behind the decline in safety levels

Introduction of CBM using monitoring equipment

TBM Time based maintenance

 Establish a certain inspection cycle, and inspection with the human eye.



• Because humans go to the site, frequent care is possible.

 Humans have a sense of detecting problems and signs with their skin sensations.

CBM Condition based maintenance (2018~)

- On the commercial train,
 "monitoring equipment is Installed and inspection is done while on the operation.
- Only when an abnormality is detected by the sensor repair work is done on-site.

It is not possible to take care of it frequently as used to be.

 Because it is judged only by numerical values, its's hard to imagine the situation on the ground.

Decline in human "technical skills" and "sense of belonging"... Perhaps as a result of this, accidents, incidents, and transportation obstacles have occurred one after another since the beginning of this year!



3. Examples of Reduced Safety Levels

Overhead wire hanging accident and electric shock accident on the Tohoku Shinkansen

(2) Overhead wires sag and hang down (1) The "heavy weight rod" that pulls the overhead break wire breaks. (3) On the hanging overhead wires Pantograph entangled and damaged, caused power outage

lway Safety Counci

 The overhead wires hang down, and a train crashed it and caused power outage accident.

 During recovery work, workers are electrocuted.
 Such incidental accidents also occurred.

• The cause of drooping is "rupture of the heavy weight rod" Parts that have service life of 30 years were used 38 years and never been replaced.

In the "Group Safety Plan 2028", the company has a corporate culture of "anticipating safety by imagining the unexpected", but in reality, this is not the case!



3. Examples of Reduced Safety Levels

Overhead wire hanging accident and electric shock accident on the Tohoku Shinkansen



• For the past six years, workers on site told the management "theequipment is outdated. It should be replaced"

• A replacement was planned, but unable to secure budget due to organizational restructuring

• Because it is an adjacent section of the Shinkansen and conventional lines, the construction also requires the suspension of electricity on conventional lines.

• In the joint work of the Shinkansen and conventional lines, inability to secure liaison system, construction

As a result of postponing the task, the accident has occurred!

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3. Examples of Reduced Safety Levels

It has changed from "preventive maintenance" to "reactive maintenance"

Traditional Periodic Inspection

- Because inspection takes place in
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short cycle, it is well maintained so almost no abnormalities were found.

 Frequently remove small damage such as rust and oil shortage before it leads to major damage. Nip danger in the bud.

 Short-cycle inspections can also
 tr How do you think about ending the inspection with "no abnormalities"?

[Workers] It is a "proof of well-maintained" Something to be proud of

Current Periodic Inspection

 Extend inspection cycles and replace human inspections with monitoring devices to reduce personnel and labor costs.

 Inability to take care of small damage frequently means a larger damage is more likely to occur.

"Insight" has declined due to the decrease in

human inspections. Only superficial and

Obvious daimage can be found

It is a "money-eater of labor costs", so reduced the frequency of inspections and personnel. ➡ Lack of insight, inability to see signs of heavy weight rod breakage!

The worksite is exhausted by simultaneous inspections in the event of a breakdown or accident, and it has fallen into "post-maintenance"!



3. Examples of Reduced Safety Levels

Monitoring devices cannot replace human inspections

Traditional Periodic Inspection

Sight, sound, smell, touch, etc., human beings have five senses. Make full use of your decisions

- You can grasp the overall picture of the equipment from various angles.
 If there is an abnormality, check the part that is not in the inspection item.
- The acquired data is judged by fulltime employees based on experience

Therefore, various analyses can be performed from the data

Current Periodic Inspection

- Only items that can be determined by sensors and cameras can be detected.
- Detection only within the range of the sensor or camera
- The acquired data is used as a manual for non-regular employees.

Therefore, uniform judgment according to only whether the value is within the standard value or not can be performed.

While upholding a safety culture of "imagining the unexpected and getting ahead of safety", It has an inspection system full of holes!



4. Background to the Decline in Safety Levels

After the Covid-19, there is a trend to prioritize "earning" over safety

Covid-19

- JR East fell into the red from 2020
- Operated the railroad with a large amount of debt. While employees' wages were suppressed, there have been a thorough cost cut.

After the Covid-19

- JR East began making profit from spring 2023
- Yet, keep the mindset of cost reduction by saying "more debt to get through the pandemic" and "It is difficult to maintain local lines due to population decline."
- Posting in the name of the head of the Shinkansen

General Headquarters at the end of 2023:"We won't stop Shinkansen, we won't delay it." "Engage in structural reforms to maximize profits" "We will continue to increase sales and reduce costs, and stick to 'earning'"

While saying that "safety is the top priority", only measures for "earning" are attracting attention

Since then, there have been a series of troubles on the Shinkansen, and customers have been calling for safe operation



4. Background to the Decline in Safety Levels

A series of troubles arise as the "earning" mindset takes precedence.

Troubles on the Tohoku Shinkansen that occurred in 2024

6	Date	Area	Content
	1/23	Ueno ~ Omiya	A Shinkansen crashed into the place where the overhead wire drooped, causing a power outage. A worker was electrocuted during the recovery work * Details are described in the previous slide.
	3/6	Shin-Shirakawa ~ Koriyama	The brakes became ineffective due to the rain, and the turnout at Koriyama Station (speed limit of 80 km/h) was greatly exceeded at 145 km/h, and the stop position was overrun by 520 m. One customer was injured
	3/29	Shin-Omiya Substation ~Kuki Electric Divisional Office	Due to power outage troubles, operation was suspended for a long time.
	4/2	Fukushima ~Shiroishi Zao	Oil leaked from a maintenance vehicle used for night work and adhered to the rails. Operation was suspended for a long time due to wiping work



Summary

We must not turn away from the doubts we have in the workplace. We must now re-establish our safety philosophy of "from pursuing responsibility to investigating the cause," by learning from accidents, pointing the arrow at ourselves, and confronting a management attitude that prioritizes operations!

To change the reality that life and health are damaged by working, let's create a workplace that puts safety first and values workers, with the goal of keeping "safety, health, and comfort" for all workers!





Thank you for your attention!

