

3.3 Training material: Training for safety and electric power facilities (6/12-17)

Safety Management



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14/6/2016

Contents of Safety Management



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2. Safety Work
3. Example in Japan
(JR East Group Safety Plan 2018)
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1. Roles of Site Administrators



(1) Understand the workplace environment and culture

The behavior of the employees working on the front lines depends in large part on the environment.

On the other hand, the managers of the site are deeply connected to the workplace environment and the corporate culture. Therefore, besides duly performing their professional duties on the front lines, **site managers must work toward improving the workplace environment and culture so that each and every employee can work with motivation and enthusiasm.**



(2) Creating a good workplace atmosphere



If the workplace is fun and lively, the atmosphere will be one where employees feel free to speak out. For example, even if a near accident occurs, it will immediately be discussed, making it likely that similar cases come out in the discussion.

In this way, **a workplace culture in which safety can be spontaneously talked together about as part of everyday work** and people can inform and enlighten one another needs to be put in place.



(3) Raise awareness about work safety



In order for each employee to duly carry out his/her work in a responsible manner and to increase safety, **it is important to raise awareness about motivation toward work safety.** Motivating employees is an important job of managers. This is way managers need to know how to effectively provide guidance and how to raise the awareness of each and every person. In other words, **managers need not only knowledge about how to manage each and every employee, but also knowledge about how to create a workplace and an environment where employees proactively promote safety.**

(1) Clothing



Before starting work, carry out an inspection of clothing, etc.

① If the use of personal protective equipment is mandatory, be sure to wear the prescribed personal protective equipment.

- Protective headgear (helmet)
- Protective eyewear
- Protective mask
- Protective gloves
- Protective footwear
- Insulating protective equipment (gloves, shoes, etc.)
- Safety belt



② Regarding items such as work shoes, wear the prescribed items.

2. Safety Work



Main Point

The first thing for safety work is to protect oneself. We must learn some established rules.

Basics of safety work

When performing work, the first thing is to protect yourself. Most injury accidents (industrial accidents) are caused by unsafe behavior such as skipping or failing to follow established work procedures. To keep yourself from getting injured, first learn the “Basics of Safety Work” and safely perform daily work accordingly. Here, we will introduce representative examples of the basics of safety work.

(2) Proactively confirm safety through pointing and calling



Perform safety checks by using all your senses. Through this, you will create time to think and ensure safe work.

- Check the target item with your eyes
- Point at the target item with your fingers.
- Say out loud “xx, OK!”
- Listen with your ears.

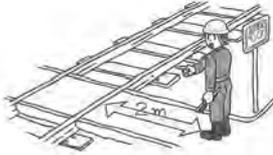
After performing the safety check, saying “xx, OK!” in a loud voice, at each juncture of the work being done, proceed to the next operation. When performing pointing and calling, clearly call out in a loud voice.



(3) Cautions regarding crossing tracks

When crossing tracks, use a path provided for that purpose.

- Stop about two meters before the rails, and check to make sure there are no trains in either direction with the pointing and calling method before crossing.
- Stopping about two meters from the rails ensures that you are outside the clearance limit and won't come in contact with a moving vehicle, etc.
- If you want to cross several tracks at a location with poor visibility, use the pointing and calling method to check for traffic in both directions each time you cross a track.



Pointing and Calling.MTS



(4) Work in high places

When the height of the work floor (standing position) exceeds 2 meters when work is performed, the "work in high places" specifications of the occupational health and safety regulations apply in Japan. (The same applies when the opening is more than 2 meters above the work floor) In that case, observe the following.

- If no enclosure, handrails, or housing is provided, **wear a safety belt** (for unifilar suspension).
- When the height exceeds 2 meters, provide a scaffold or the like to serve as the work floor.
- **If providing a work floor is difficult, wear a safety belt.**
- When using a ladder or the like, assign a person to secure the ladder.



Be careful not to drop tools or equipment.

- Lower-down workers must not work directly under you.

Safety Regulations

~Standard Specifications for the Safety of Construction on Tracks in Service~
~Guide for the Prevention of Collision with Vehicles~

Contents

[Standard Specifications for the Safety of Construction on Tracks in Service]

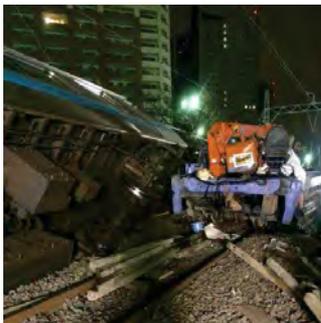
- Why do we need Safety Regulations?
- Meaning of the Standard Specifications for the Safety of Construction on Tracks in Service
- Content of the Standard Specifications for the Safety of Construction on Tracks in Service

[Guide for the Prevention of Collision with Vehicles]

- About the accident which prompted the establishment of the regulations
- Scope of application for the Guide to the Prevention of Collision with Vehicles
- Order of Priority in the Operational Safety System

Why do we need Safety Regulations?

(1) Train derailment



Why do we need Safety Regulations?

(3) Collapse of a crane operating in front of a station



Review

(1) Safety and Stability

Safety means protecting people's lives.

Stability means supporting proper train operations

(2) Three Safety Acts

In the event of accident, first report it.

After confirming safety, cancel line closure

If any risk of danger is present, stop train operations.

“Safety” is the company's top priority.

[Standard Specifications for the Safety of Construction on Tracks in Service]

Why do we need Safety Regulations?

(2) Crane collapse



Why do we need Safety Regulations?

(4) Collapse of protective fencing



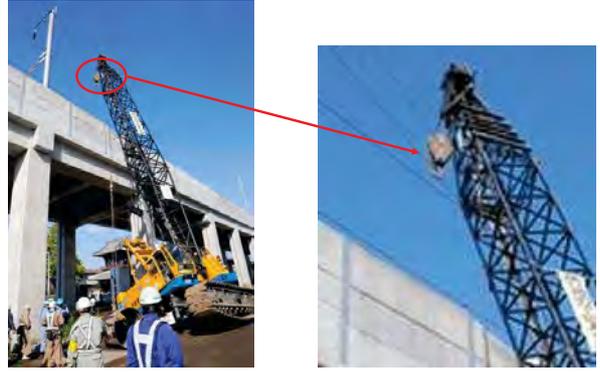
Why do we need Safety Regulations?

- (5) Collapse of protective netting for tracks



Why do we need Safety Regulations?

- (6) A crane collapsed and came into contact with power lines.

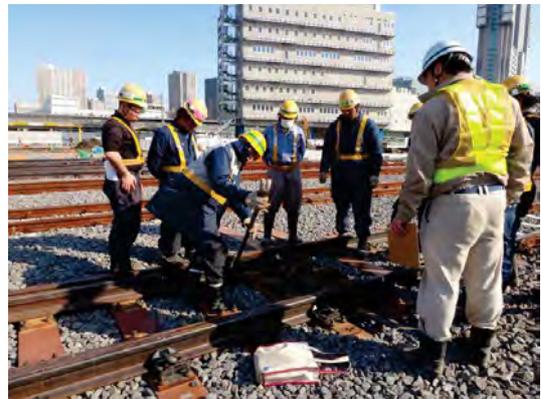


Why do we need Safety Regulations?

To perform construction while ensuring safe and secure transportation

Unique to railway construction ~Construction in areas close to tracks in service~

- Example (1) Work inside the railway track formation level



Unique to railway construction ~Construction in areas close to tracks in service~

- Example (2) Areas related to the safety and security of train service (Transformer substations, etc.)

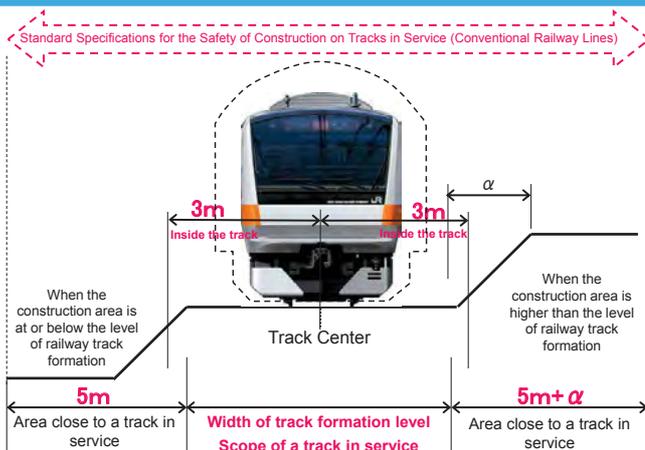


Unique to railway construction ~Construction in areas close to tracks in service~

- Example (3) Areas requiring measures for passenger safety (Inside ticket gates, etc.)



Scope of Application for the Standard Specifications for the Safety of Construction on Tracks in Service



Track Closure ~Track Closure Procedures for Construction~

Procedures to **prevent the entry** of trains and vehicles into the area of construction

➡ **Activate the stop signal for the area.**

Why is it necessary to close the track?

- ➡ **For the safe and stable operation of trains (Separation of train operations and construction)**
- ➡ **To initiate the operational safety system**

Even when construction is taking place, trains move forward if the signal is green.



Measures Initiated with Track Closure

Conventionally

- Prevent the entry of trains
- Protect operators
- Determine the construction area and clarify the range of trail confirmation

From now

- Auxiliary procedures for safety in an area where construction is performed with track closure
- Determine the construction area and clarify the range of trail confirmation

※Double safety measures are the integration of "Train Protection Measures" and "Auxiliary Safety Measures."

Double Safety Measures ~Equipment to be used / Installation Methods~

Equipment to be used	Points of clarification	(Reference) Basic ground installation in accordance with double safety measures (An example of large-scale construction machine use) (An example of other construction and work)	
Track circuit	<ul style="list-style-type: none"> Clarify and expand the areas where track circuit can be. Expand the use of track circuit in between stations and in the station yard (except branching device). Specific locations are determined by branch office. 	Install track circuit in the construction area.	Install track circuit in the work area.
Red pilot lamp	<ul style="list-style-type: none"> Portable special signaling device used for safety or that should be differentiated from fixed-type special signaling device is called a red pilot lamp. Basically installed inside the track. 	Install red pilot lamp in the location which can be seen 800 m away from the construction area.	Install red pilot lamp at the edge of the work area.
Yellow pilot lamp	<ul style="list-style-type: none"> Install large yellow flashing pilot lamp. Flashing function increases visibility, which helps to control the track closure from the outer areas of the construction site compared with the indicator for track closures for construction. Installed inside the track (Basically it should also be installed inside the track for other work). 	Install highly visible yellow pilot lamp approx. 700 m outside of the construction area.*	Install yellow pilot lamp at the edge of the work area.
Indicator for the track closure area for construction	<ul style="list-style-type: none"> No change from the existing methods Installed inside the track (Basically, it should also be installed inside the track for other work). 	Install indicator for the track closure area for construction approx. 700 m outside of the construction area.	Install indicator for the track closure area at the edge of the work area.

※ Previous procedures specified that for cases in which the required safety distance within the yard was not available, track closure indicators were to be positioned at the farthest point possible within the yard. This revision specifies that in all cases track closure indicators are to be positioned at the greatest distance possible within the yard.

Yamanote Freight Line - Vehicle accident involving operators between Osaki and Ebisu

- <Occurrence> February 21, 1999 0:14 AM
- <Location> About 3,620 m between Osaki and Ebisu on Yamanote Freight Line
- <Influence> 15 trains cancelled, 15 trains delayed (249-1 min)
- <Casualties> 5 operator fatalities.

Yamanote Freight Line - Vehicle accident involving operators between Osaki and Ebisu

- Causes of the accident
- (1) The construction supervisor was late, and gave directions to operators without checking the **state of train operation**.
- (2) The construction supervisor made a mistake and provided the **time table for the previous day** to a track safety guard for the work area.
- (3) The construction supervisor did not indicate a specific location for the track safety guard to stand.
- (4) The track safety guard for the work area was not performing his job properly. (The guard was standing at the head of the operators, **turning his back to the track**, and walking.)

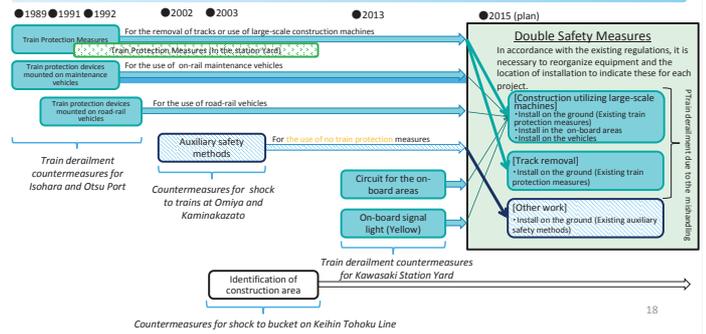
Integration of "Train Protection Measures" and "Auxiliary Safety Measures" ~Implementation of Double Safety Measures~ [Reference materials]

4.1 Reorganization of Existing Guidance

Measures to prevent accidents in the past have overlapped or have had similar objectives, effects, and methods, which caused complexity of regulations.

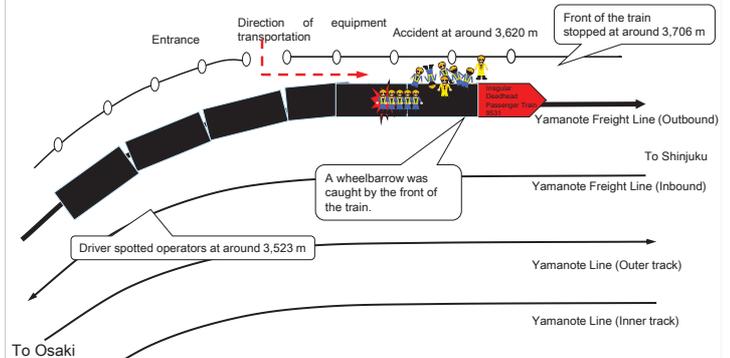
[Reorganization Point]

Reorganize equipment and the location of installation to increase safety, and indicate these for each project.
 ※ Indication of construction areas required to identify the range of track confirmation should be handled as before



[Guide for the Prevention of Collision with Vehicles]

Yamanote Freight Line - Vehicle accident involving operators between Osaki and Ebisu



Guide for the Prevention of Collision with Vehicles

Objective

- The safety of workers and equipment should be ensured by the deployment of track safety guards and the separation of train and work operations on the railway track through track closure and safety equipment.

Order of Priority in the Operational Safety System

The items listed below indicate the order of priority in the operational safety system required to execute work plans **within the clearance limit**.

- (1) The positioning of **track safety guards** alone is insufficient for the execution of work.
- (2) In principle, each project should be planned in accordance with **the track closure procedures for construction, etc.**
- (3) In the event that the track closure procedures cannot be implemented, **track circuit** or **portable special signaling device** is required.
- (4) In the event that (2) and (3) are not possible, TC-type wireless or regular train approach warning devices, or crossing alarms are required.

Railway Construction Safety System

- What is the track safety guard?

Track safety guard

[Responsibilities]

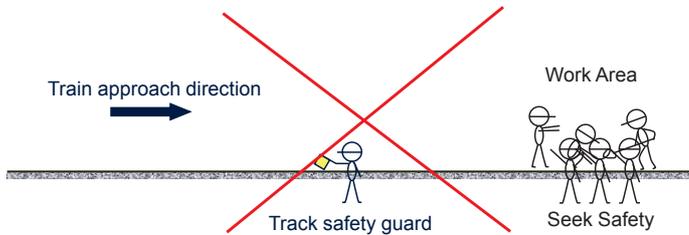


- Supervise train approach and passage at the predetermined location.
- Signal **train passage** to give warning to construction supervisor and operators.
- Confirm "Evacuation Complete" provided by the construction supervisor, etc.

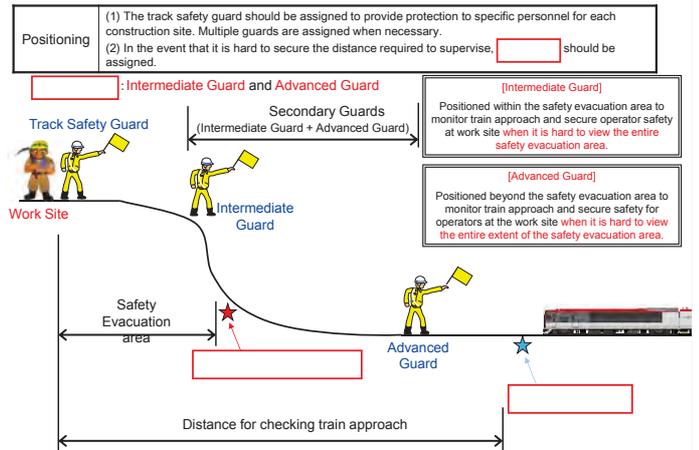
Track safety guard is allowed to perform guard duty only.

Order of Priority in the Operational Safety System

- (1) The positioning of **track safety guards** alone is insufficient for the execution of work.



Positioning of the Track Safety Guard



Terminology

Terminology

©"Distance for checking train approach" and "Safety evacuation area"

[] is the distance between the work site and the point of train approach required for operators to evacuate from the time they receive the sign of train approach until the time they check obstacles, evacuate, and give the sign indicating evacuation has been completed.

[] is the distance between the work site and the point of train approach required to ensure sufficient time to evacuate after receiving the emergency sign of train approach.

Maximum Train Speed in the Section	Distance for Checking Train Approach	Distance Required for Evacuation
More than 120 km/h	1,200 m or more	400 m or more
More than 95 km/h and up to 120 km/h	1,000 m or more	350 m or more
More than 70 km/h and up to 95 km/h	800 m or more	300 m or more
70 km/h or less	600 m or more	250 m or more

Order of Priority in the Operational Safety System

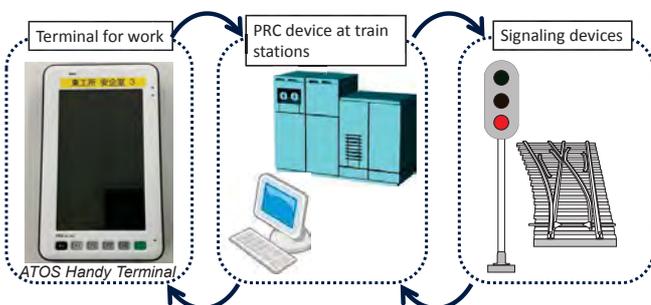
Stipulating the order of priority in the operational safety system to execute work plans **within the clearance limit**.

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Order of Priority in the Operational Safety System

- (2) In principle, each project should be planned in accordance with **the track closure procedures for construction, etc.**

- Measures to **prevent the entry** of trains or other vehicles to the area
- Separation of "train operation" and "the work on train tracks"



Order of Priority in the Operational Safety System

- (2) In principle, each project should be planned in accordance with **the track closure procedures for construction, etc.**

Work during track closure



Article 5: Installation, replacement, or removal of banching devices



Article 6: Construction or other work that temporarily interferes the construction limit

※Track Closure Procedures for Construction (Regulations)

Order of Priority in the Operational Safety System

Stipulating the order of priority in the operational safety system to execute work plans **within the clearance limit**.

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Order of Priority in the Operational Safety System

(3) In the event that track closure procedures cannot be implemented, track circuit or portable special signaling device is required.

Track circuit

Track circuit should be installed on rails to provide power for the **stop light** on the side from which the train approaches



Track circuit (Installed on rails)



Work Site

Order of Priority in the Operational Safety System

(3) In the event that track closure procedures cannot be implemented, track circuit or portable special signaling device is required.

Portable special signaling device

Portable special signaling device should be installed in the location where the train driver can see the **stop light 800 m away from** (the outer limit of) the construction area.



Confirm the stop light! Portable special signaling device (installed inside the track)



Install the device in the location where the train driver can see the stop light 800 m away from the construction area → Work site

Order of Priority in the Operational Safety System

Stipulating the order of priority in the operational safety system to execute work plans **within the clearance limit**.

- (1) The positioning of **track safety guards** alone is insufficient for the execution of work.
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Order of Priority in the Operational Safety System

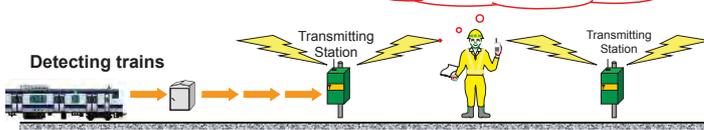
(4) In the event that (2) and (3) are not possible, TC-type wireless or regular train approach warning devices, or crossing alarms are required.

TC-type wireless train approach warning device

- On receipt of **train approach warning**, all personnel evacuate immediately.
- In the event train approach warning and the alarm system do not function, all personnel evacuate immediately.



Outbound train is coming!



Order of Priority in the Operational Safety System

(4) In the event that (2) and (3) are not possible, TC-type wireless or regular train approach warning devices, or crossing alarms are required.

Train approach warning device

- The train approach warning device receives the train approach information from the signaling apparatus (signal circuit) and axle detector (rail switch), indicates the warning with a **signal light**, and sounds an electronic siren.
- It is usually on, and it flashes on and off when a train is approaching.



Signal Light



Rail Switch

Order of Priority in the Operational Safety System

(4) In the event that (2) and (3) are not possible, TC-type wireless or regular train approach warning devices, or crossing alarms are required.

Crossing alarm



Detecting trains



Safety Countermeasure at Level Crossing

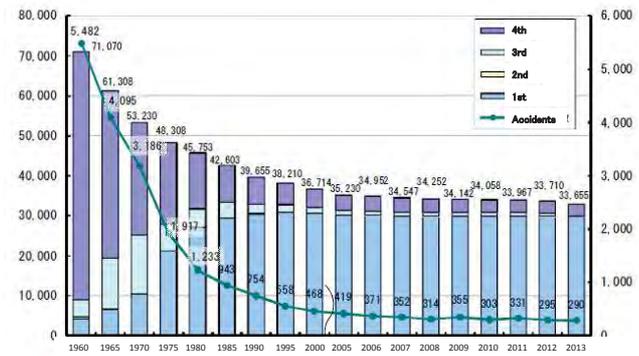


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15/6/2016

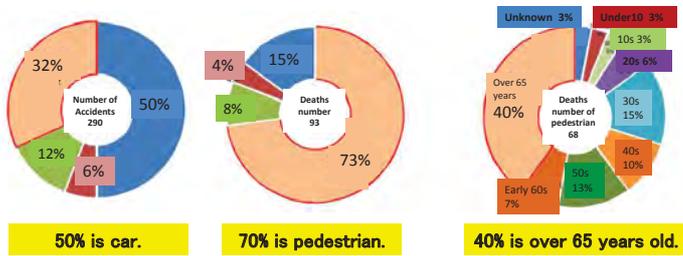
The number of Level Crossing

The number of Accidents



The number of accidents at the Level Crossing in Japan

Cars Light vehicles
Pedestrian Motorcycle



The ratio of pedestrian in the level crossing accident The ratio of Elders

Accidents at level crossing in Japan(2013)

Pedestrian at the Level Crossing



Pedestrian is left behind in the L.C.

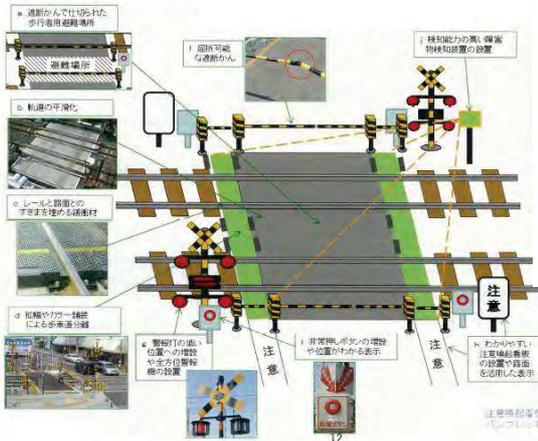
A wheel falls in a gap.



Backward passing of a wheelchair

Falling down

Preventing accident at the Level Crossing



Safety equipment of Level Crossing

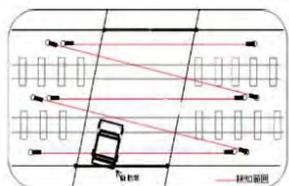


①Emergency button



Anyone can push emergency button in case of happening emergency accident. Train signal turns to red.

②Equipment which detects interruption in the level crossing



Ground Plan



③Crossing Rod and gate



2 rods Level Crossing (Upper rod is easy to see for truck drivers.)

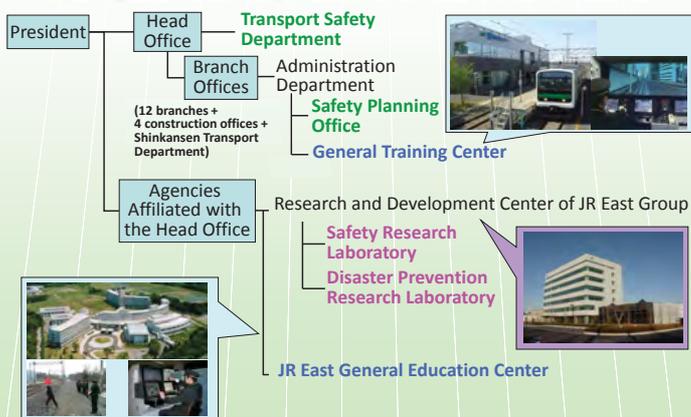


Gate style level crossing

JR East Group Safety Plan 2018

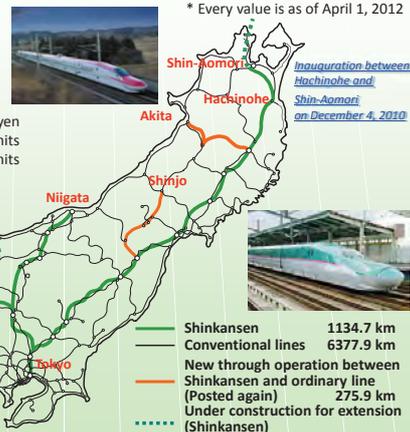
Enhancing safety in a team
by combining everyone's
strenuous efforts

Organization and Activities for Safety



Summary of JR East

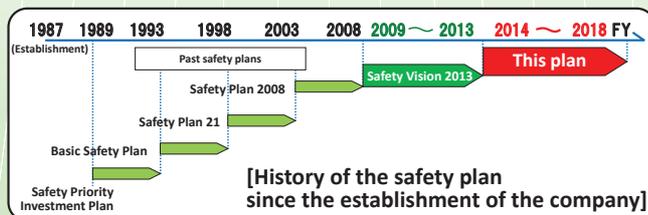
Number of employees 59,130 people
Operating kilometers 7,513 km
Number of stations 1,689 stations
Number of trains 12,757 trains
Number of rolling stock 13,157 cars
Revenue 1,817.4 billion yen
Number of station escalators 1,751 units
Number of station elevators 1,109 units



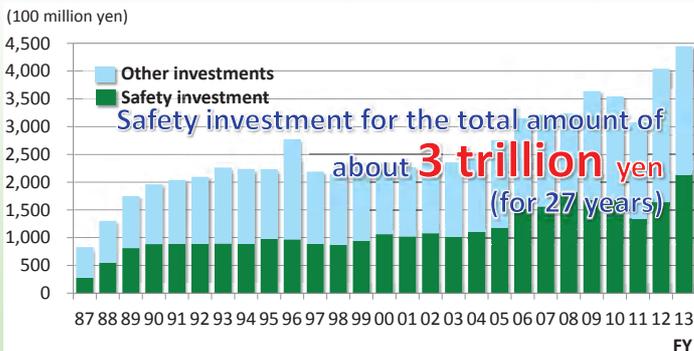
Formulation of Five-year Safety Plan

Safety as the top management priority since its establishment, JR East formulated and implemented five 5-year safety plans.

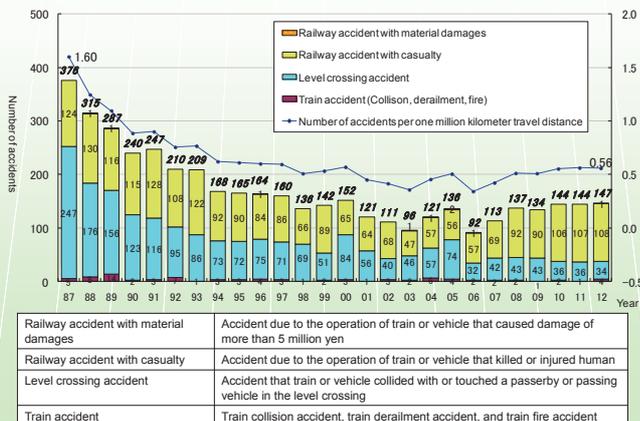
* This is the sixth 5-year plan.



Capital Investment for Safety Enhancement



Occurrence of Railway Accidents



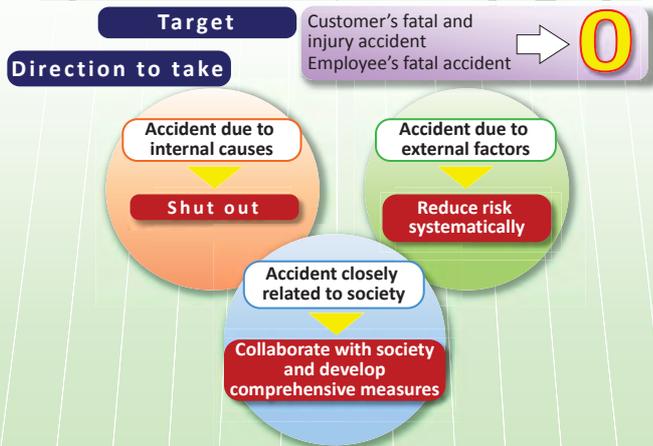
The Basic Safety Policy of JR East Group

Protect lives

Shut out "recurring phenomena"
just before accident

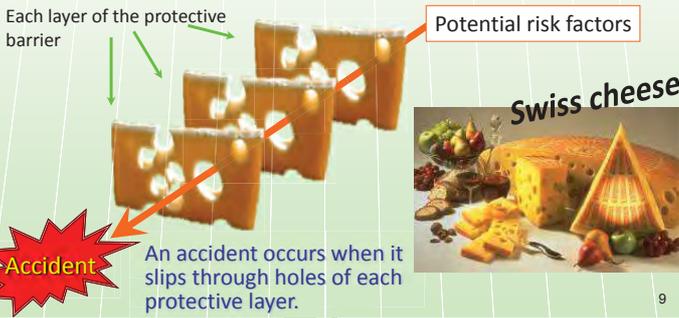
Steadily formulate the approach of every
employee and devise measures and mechanisms
for hardware to reduce risk

Targets and the Direction to Take



Why Does an Accident Occur? Swiss Cheese Model

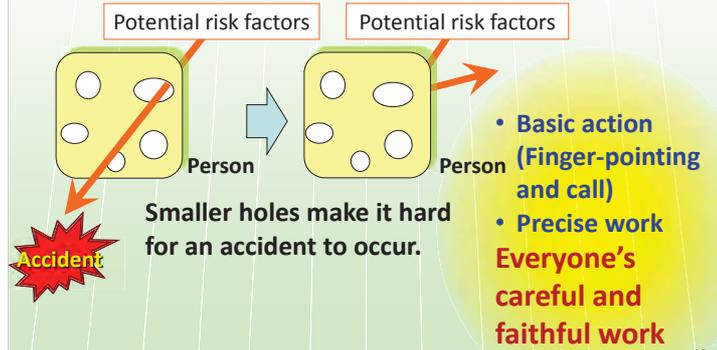
The Swiss Cheese Model was proposed by the British psychologist James Reason. He explained that an accident occurs when it penetrates the holes of multiple protective barriers using Swiss cheese.



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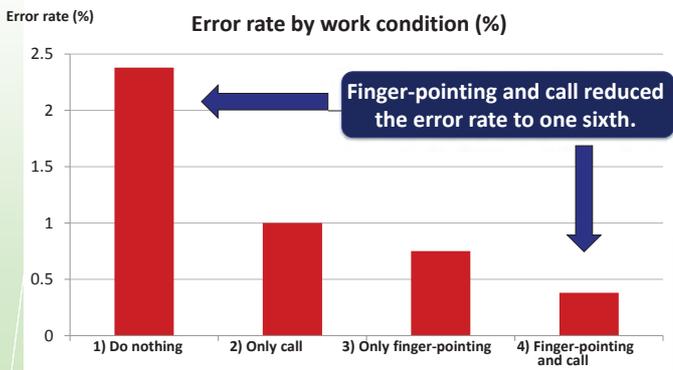
How to Prevent an Accident Swiss Cheese Model

Example shows that a human error causes an accident



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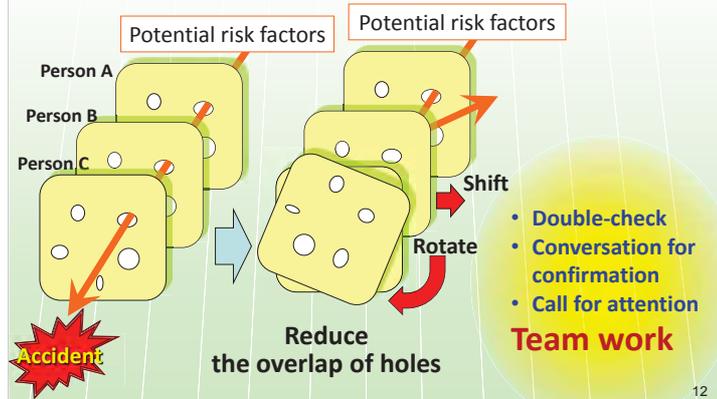
How to Prevent an Accident Effect of Finger-pointing and Call to Prevent an Error



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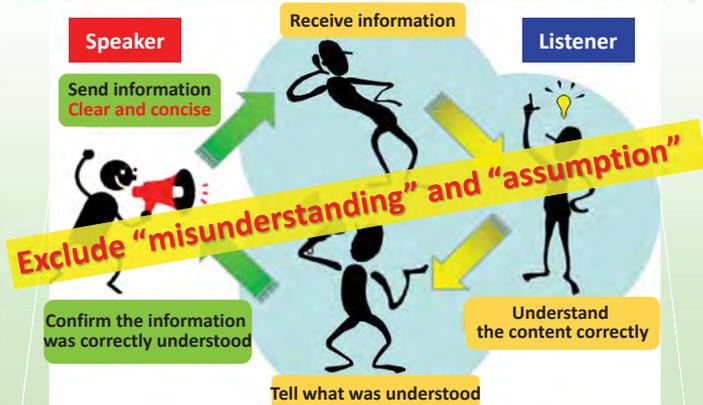
How to Prevent an Accident Swiss Cheese Model

In case there are multiple people...



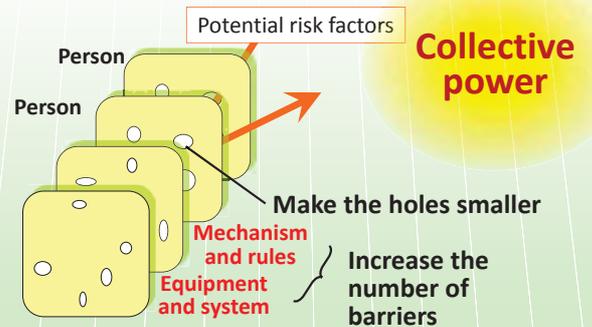
12

How to Prevent an Accident Prevent an Error by Conversation for Confirmation



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How to prevent an accident Swiss Cheese Model



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Detail of the Safety Plan 2018

4 Pillars of JR East Group Safety Plan 2018

1. Establish safety culture
2. Improve safety management system
3. Steadily reduce risk
4. Promote priority improvement plans for safety equipment

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4 Pillars of JR East Group Safety Plan 2018

1. Establish safety culture

2. Improve safety management system

3. Steadily reduce risk

4. Promote priority improvement plans for safety equipment

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1. Establish safety culture

Safety Culture

is the foundation of the safety approach that the group has been cherishing to date.

5 cultures

3 principles of actualities:

Actual location, Actual object and Actual people

Challenge Safety Campaign

Stop the train immediately whenever a risk is foreseeable.

By assigning all the safety approaches developed so far, we establish safety as part of the DNA of each employee.

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1. Establish safety culture

Instill the 5 Cultures of the JR East Group!

Culture of proper reporting

Swiftly and correctly report accidents and incidents to prevent further occurrences.

Culture of noticing

Be aware of potential accidents and incidents before they happen, and share information to prevent them happening.

Culture of direct confrontation and debate

When looking for causes, work through various opinions and engage in debate to pinpoint background factors to help develop truly effective countermeasures.

Culture of learning

Imagine an accident had happened to someone else not in your job and learn from it to help develop specific responses.

Culture of action

Finally, turn conclusions into specific actions to really ensure safety. Think and act yourself -- these are the virtues that underpin safety.

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1. Establish safety culture

Instill the 5 Cultures of the JR East Group!

Stop the train immediately whenever a risk is foreseeable!

Basic motion like conversation for confirmation and finger-pointing and call

Culture of action continues and all employees make further efforts together to develop it.

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1. Establish safety culture

Let's Promote the Challenge Safety (CS) Campaign together.

- "Challenge to enhance safety" is the origin of the CS Campaign.
- Each employee is the leading actor responsible for safety.
- Regardless of the style



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1. Establish safety culture

How to Support the CS Campaign (Example)

- ◇ To let every employee get the **sense of accomplishment**
 - Realize the content discussed in the CS Campaign (Example) Establish the content as a rule of the workplace and visualize it with the budget allocated for the activation of the CS Campaign
 - Play the central role in the CS campaign by experiencing such role as an official of the CS promotion committee (Example) Appoint CS promotion committee officials systematically and create assistance to the CS promotion committee officials to expand the activities.
- ◇ **Efforts to respond promptly**
 - Respond seriously to inquiries and requests from employees as promptly as possible with information on the progress and direction
- ◇ **Develop a mechanism** free from the inward-looking attitude and format
 - Expand employees' activities to allow them to develop a wide variety of views and ideas (Example) Let employees exchange opinions with other sections and companies and learn from the field. ぶ
 - All employees make concerted efforts to develop a good mechanism regardless of the format of meeting and presentation.

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1. Establish safety culture

Let's Promote 3 Principles of Actualities

- Problems related to safety always occur in the *actual field*.
- Answers are also in the *actual field*.

Actual location: Go to the actual location to understand the circumstances

Actual objects: Examine the actual objects

Actual people: Meet face-to-face with the people actually involved to understand their situation



Face the reality, discuss problems, and get lessons to devise real measures

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4 Pillars of JR East Group Safety Plan 2018

1. Establish safety culture

2. Improve safety management system

3. Steadily reduce risk

4. Promote priority improvement plans for safety equipment

2. Improve safety management system

Develop Human Resources Responsible for Safety

Develop human resources under the leadership of specialists in safety guidance, safety professionals, general training center, and skill training center



Steady technology succession
Succeed accumulated empirical knowledge and develop something new

- Opportunity to learn and challenge
- Succeed "stories on safety" through experience

Develop the ability to respond flexibly in case of emergency



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4 Pillars of JR East Group Safety Plan 2018

1. Establish safety culture
2. Improve safety management system
3. Steadily reduce risk
4. Promote priority improvement plans for safety equipment

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2. Improve safety management system

Learn the Fear of Accident

Further utilization of the museum showing the history of accidents

All employees visit the museum to see the real vehicles damaged by accident or disaster and learn the frightfulness of accident.

Improvement and utilization of the training line to experience the real vehicle

Real experience and simulated experience to know the frightfulness of accident

Examples of experience menu:

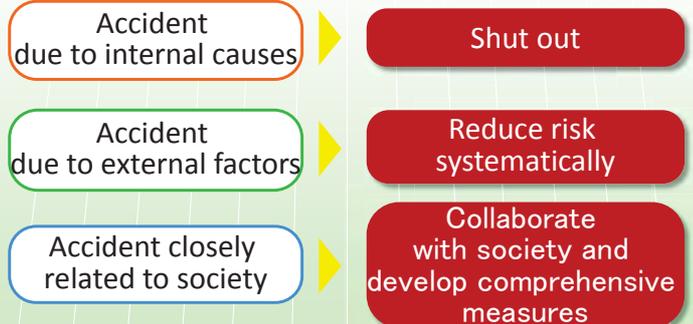
- Impact in motion and incorporation due to track irregularity
- Rolling down, contact by a doll, dragging by the door

Training line using real vehicle (Image)



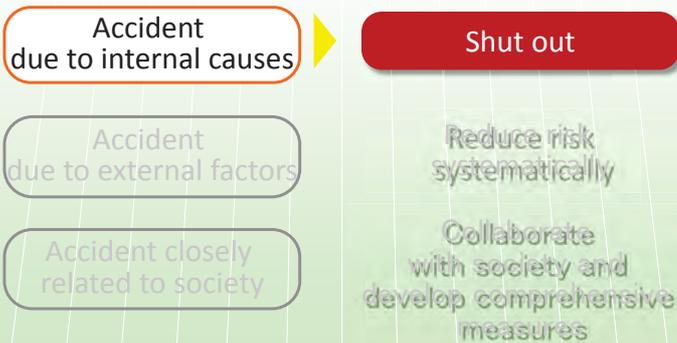
26

3. Steadily reduce risk



28

3. Steadily reduce risk

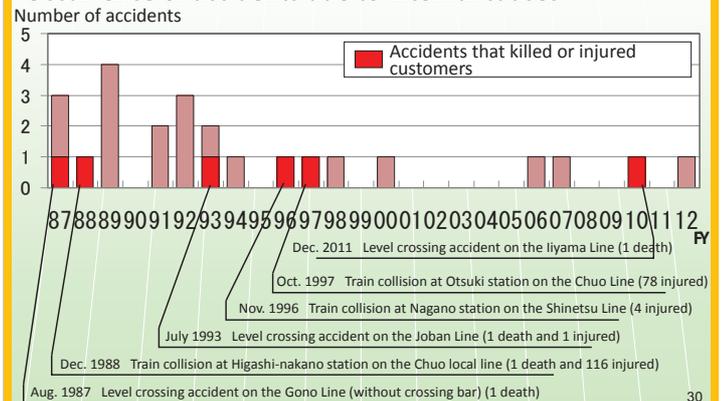


29

3. Steadily reduce risk

Shut Out Accidents Due to Internal Causes

Occurrence of accidents due to internal causes



30

3. Steadily reduce risk

Shut Out Accidents Due to Internal Causes

Our Attitude about Sources of Accident



31

3. Steadily reduce risk

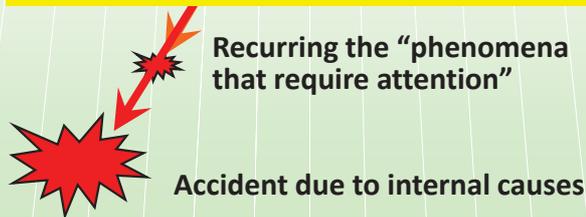
Shut Out Accidents Due to Internal Causes

Recurrence of the phenomena that require attention



32

In order to shut out accident due to internal causes, shut out the recurring phenomena that require attention completely.



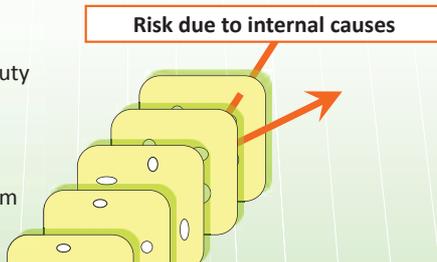
Shut out Recurring Phenomena

Perform the PDCA correctly



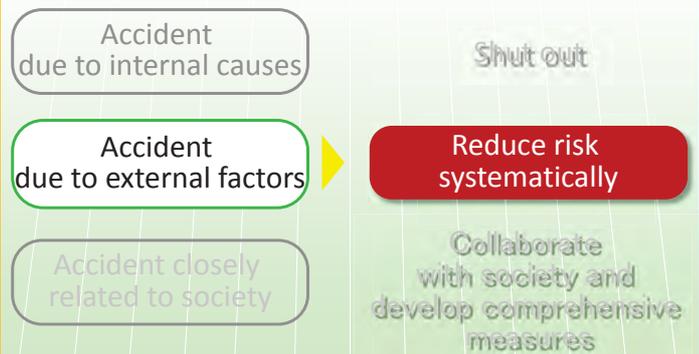
Shut Out Using Every Possible Measure

- Everyone's faithful performance of his duty
- Improvement of mechanism and rule
- Improvement of equipment and system
- New technology, etc.



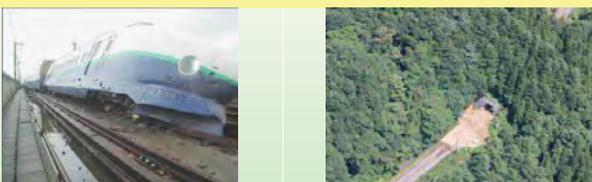
Shutting out the recurring phenomena that require attention leads to shutting out accidents due to internal causes.

3. Steadily reduce risk



Decrease the risk of "accident due to external factors" systematically

Risks to date
Large-scale earthquake, landslide caused by rain, gale



New risks
Local heavy rain, gust, flood, volcano eruption

Decrease the risk of "accident due to external factors" systematically

◇ Major measures in progress

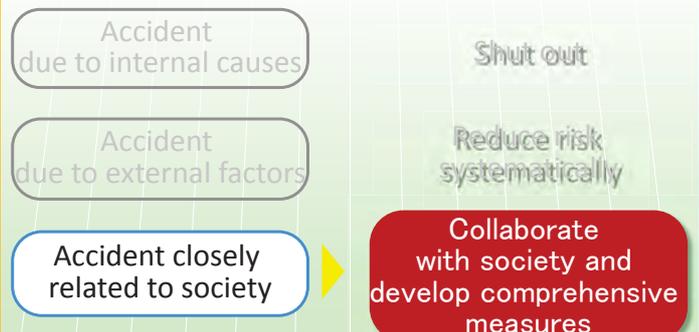
- Countermeasure for large-scale earthquakes
Reinforcing the earthquake resistance of embankment, cut, viaduct and utility pole
- Countermeasures to increase the resistance to rainfall and disaster
Increasing the strength of equipment (embankment, cut)
- Countermeasures for falling rocks and landslide
Rockfall protection work, slope protection work, improvement of protective fences for sediment
- Countermeasures for gale
Improvement of windbreak fence

Decrease the risk of "accident due to external factors" systematically

◇ Major measures being planned for the future

- Countermeasure for large-scale earthquakes
Development of a system to stop Shinkansen more promptly utilizing such data as information from seismometer for marine earthquake
- Countermeasures for falling rocks and landslide
Practical application of systems like EADaS to assess such risks as large-scale landslide
- Countermeasures for gale
Development of a technology to increase the precision of estimate of gale using data from the Meteorological Agency

3. Steadily reduce risk



3. Steadily reduce risk

Collaborate with society and implement a comprehensive policy for "accidents closely related to society"

Risk at level crossing

- Passengers in a car get injured or dead by collision with a train
- Pedestrians get injured or dead



- ◇ Improvement of warning device for level crossing and obstruction detecting device
- ◇ Seek cooperation from local residents and municipalities to dismantle crossings besides the "Zero accident at level crossing" campaign

3. Steadily reduce risk

Collaborate with society and implement a comprehensive policy for "accidents closely related to society"

Accident due to falling from the platform

- Victims are mostly drunken customers
- Prevent accident of mobility handicapped customers.



- ◇ Systematic installation of platform doors
- ◇ Request customers and local residents to avoid risk at platform besides conducting a platform campaign

4 Pillars of JR East Group Safety Plan 2018

1. Establish safety culture
2. Improve safety management system
3. Steadily reduce risk
4. Promote priority improvement plans for safety equipment

4. Priority improvement plans for safety equipment

Investment in safety for the five years from 2014 is expected to amount to: about one billion yen



4. Priority improvement plans for safety equipment

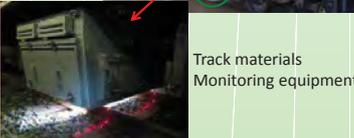
Examples of priority improvement plan for safety equipment

Shut out accident due to internal causes

Incorporate results of technological development

Frequent monitoring

Utilization of tablet terminals



4. Priority improvement plans for safety equipment

Examples of priority improvement plan for safety equipment

Minimize the risk due to external factors

Minimize the damage

Reinforcing the earthquake resistance

Windbreak fence



4. Priority improvement plans for safety equipment

Examples of priority improvement plan for safety equipment

Reduce the risk closely related to society

Systematic improvement of measures by the JR East Group to reduce risks

Platform door

Prevention of level crossing accident



2014—2018

JR East Group Safety Plan 2018

Enhancing safety in a team by combining everyone's strenuous efforts

Overview of electrical systems

Japan International Consultants
for transportation Co., Ltd.

1

Electricity

2

Contents

1. Overview
2. Power supply
3. Transformation
4. Overhead contact lines
5. Distribution
- 6.

3

1. Overview

4

【What is electricity?】

DC 【Stable electricity with less changes】 **(DC)**

- Low voltage: 750V or below
- High voltage: Above 750V; 7000V or below
- Extra high voltage: Above 7000V

→

DC



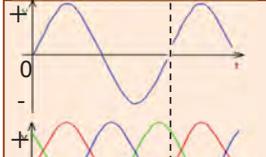
DC wave form

AC 【Electricity which alternates like waves】 **(Alternating Current)**

- Low voltage: 600V or below
- High voltage: Above 600V; 7000V or below
- Extra high voltage: Above 7000V

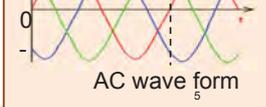
→

Single phase AC



→

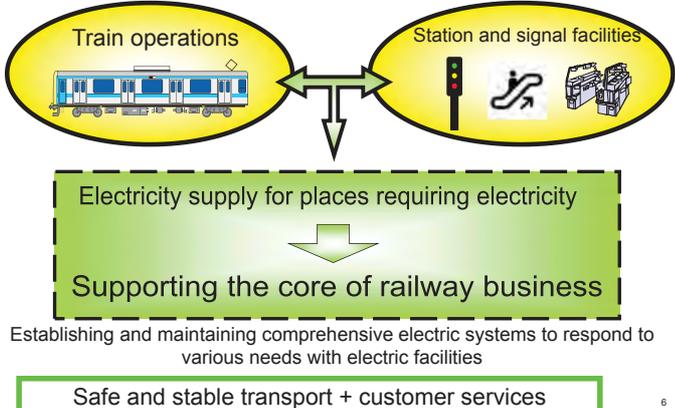
Three phase AC



AC wave form

Electricity we generally use are:
Single phase 100V, single phase 200V, three phase 200V.

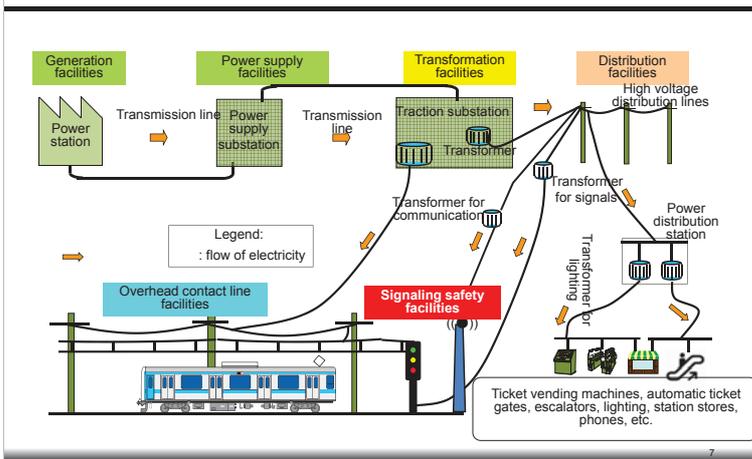
【Objectives of electricity related work】



The diagram illustrates the objectives of electricity-related work. It starts with two interconnected components: 'Train operations' (represented by a train icon) and 'Station and signal facilities' (represented by a signal light, track, and station building icons). A double-headed arrow connects them, indicating mutual dependence. Below this, a green dashed box contains the text 'Electricity supply for places requiring electricity' and 'Supporting the core of railway business'. A downward arrow points from this box to a solid green box at the bottom containing 'Safe and stable transport + customer services'. A note below the dashed box states: 'Establishing and maintaining comprehensive electric systems to respond to various needs with electric facilities'.

6

【Outline of electric facilities】



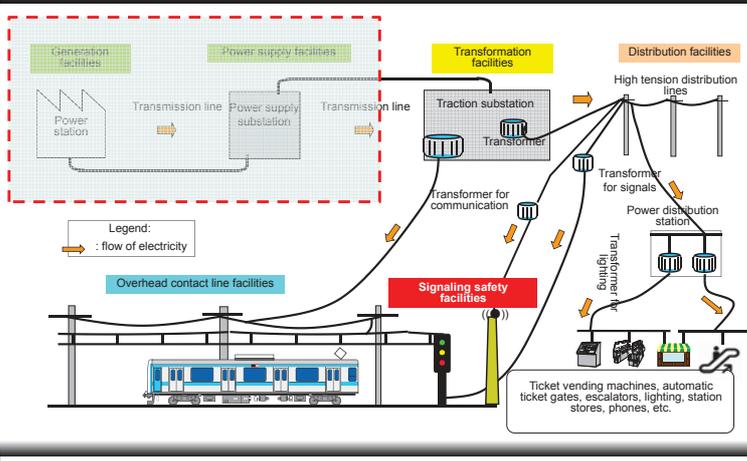
The diagram shows the flow of electricity through various stages of the power system. It starts with 'Generation facilities' (Power station) connected to 'Power supply facilities' (Power supply substation) via 'Transmission lines'. From there, it goes to 'Transformation facilities' (Traction substation with transformer) and 'Distribution facilities' (High voltage distribution lines). The system then branches into several paths: 'Overhead contact line facilities' for trains, 'Signaling safety facilities', 'Transformer for communication', 'Transformer for signals', 'Transformer for lighting', and 'Power distribution station'. The power distribution station supplies 'Ticket vending machines, automatic ticket gates, escalators, lighting, station stores, phones, etc.' A legend indicates that orange arrows represent the 'flow of electricity'.

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2. Power supply (generation and transmission)

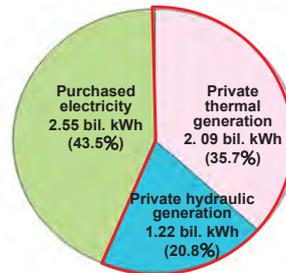
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【Outline of electric facilities】



Generation volume and consumption volume

Electricity consumption volume



Breakdown of electricity

Private thermal generation: 2.55 bil. kWh
Private hydraulic generation: 1.22 bil. kWh
Purchased electricity: 2.55 bil. kWh
Total: 5.86 bil. kWh

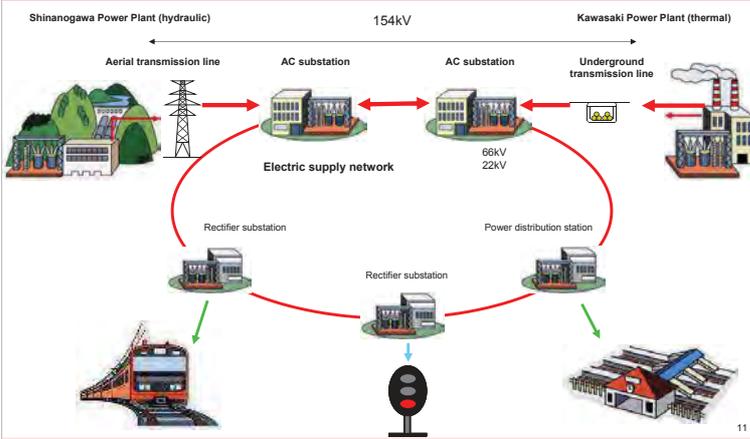
Source: JR East CSR Report 2014

* Monthly electricity consumption volume per household: 300kWh

JR East generates **56.5%** of its electricity by private generation.

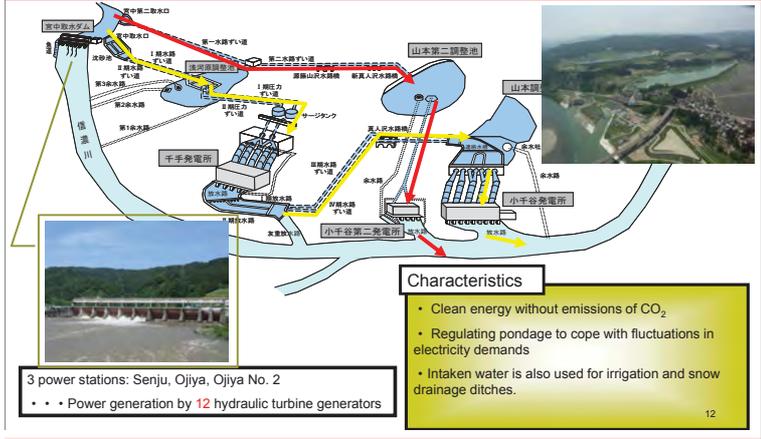
10

Flow of independent power generation and supply



11

Shinanogawa Power Plant

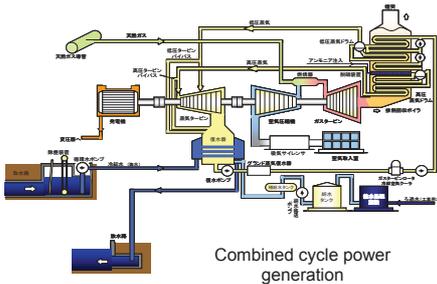


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Kawasaki Power Plant

Characteristics

- Being close to places with demands, power transmission can be possible with less power loss.
 - Combined cycle power generation
- Fuel: kerosene, city gas, natural gas



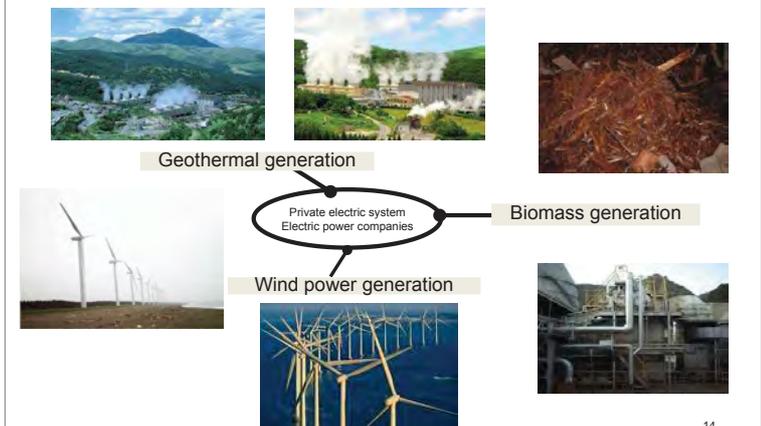
Kawasaki Power Plant (Tanabe canal side)



Kawasaki Power Plant No. 3 generator turbine

13

Research and development of new renewable energy



14

Power transmission lines

Length of Power transmission lines: 1300km



Power transmission Lines



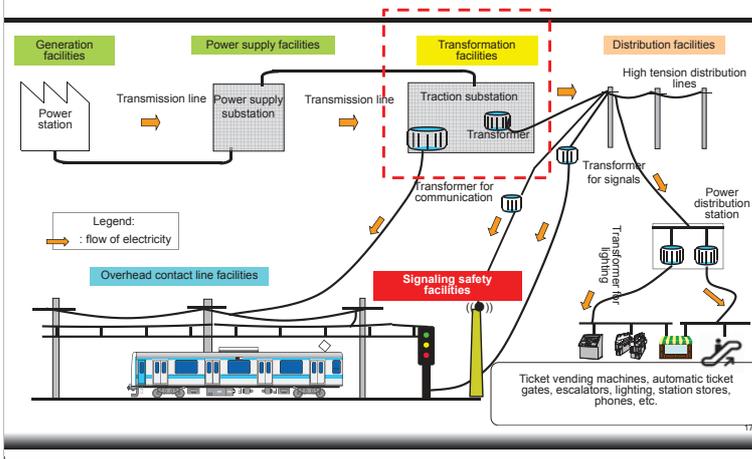
Cables under the soil

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3. Transformation

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【Outline of electric facilities】



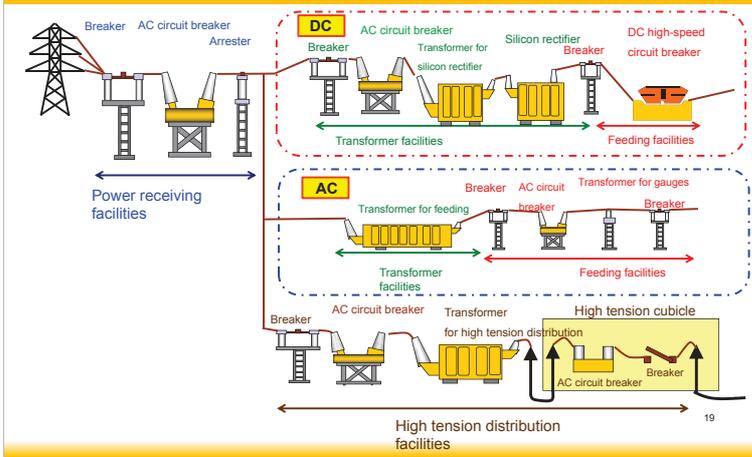
Basics of traction substations

Feeding system

Classification	DC feeding	AC feeding
Items to be compared		
Standard voltage	1500V	20000V (Shinkansen: 25000V)
Substation distance	Short	Long
Ground facilities cost	High	Low
Railcar cost	Low	High
Suitable application	Lines with high operational density (inside large cities) Subway	Intercity transport (local trunk lines) Shinkansen

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Facilities of substation

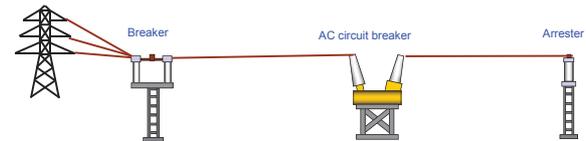


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Facilities of substation

1. Power receiving facilities

To traction substations for electric trains, electricity is transmitted from our private power supply substations or electric companies via power transmission line.

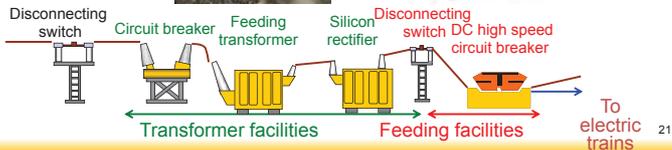


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DC substation facilities for electric trains

2-1. Transformer facilities Feeding facilities

Electric trains in DC sections are operated by direct current electricity. Since electricity is transmitted to substations in a 3-phase 3-line system, it is necessary to transform the electricity from 3-phase to DC and the required facilities are called transformer facilities.

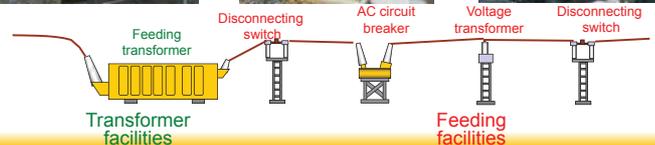


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AC substation facilities for electric trains

2-2. Transformer facilities Feeding facilities

Electric trains in AC sections are operated by transforming the electricity to a single phase AC. There are two connection systems for feeding transformers: Scott connection and modified wood-bridge connection.

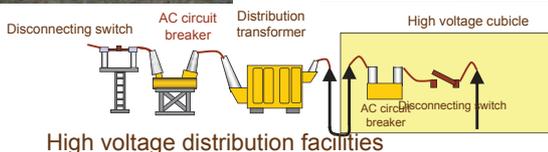


22

Substation facilities

3. High voltage distribution facilities

High voltage distribution facilities are those to transmit electricity to distribution lines as power source for signals, station facilities, etc.

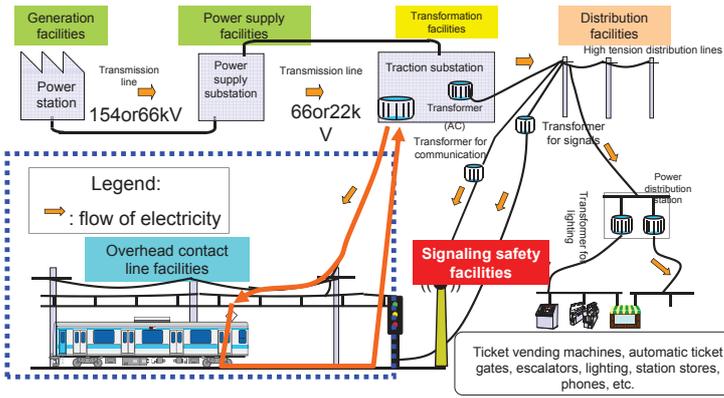


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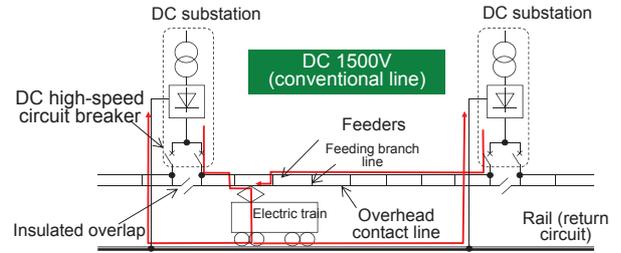
4. Overhead contact lines

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Outline of electric facilities



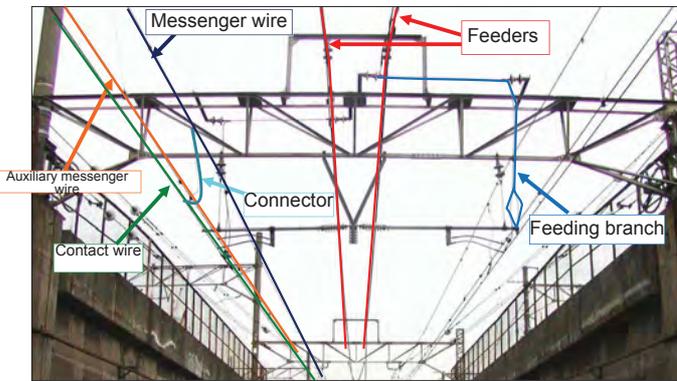
DC feeding system



Characteristics

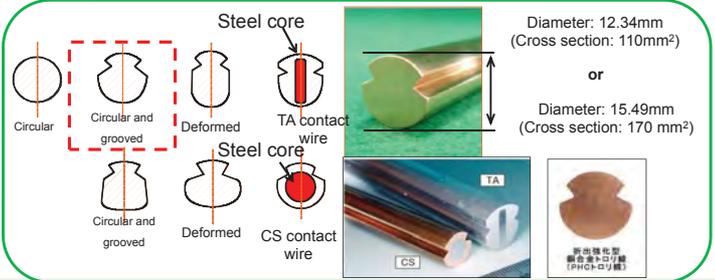
- At a substation, 3-phase AC is transformed to DC by a rectifier.
- Electricity can be fed in parallel from a neighboring substation.
- As facilities for electric trains, a rectifier and a DC circuit breaker are used.

Names of overhead contact line facilities (DC)



Shapes and materials for contact wires

- (1) High conductivity
 - (2) High tensile strength
 - (3) Thermal resistance and wear resistance
 - (4) Resistance against bending and vibrations
 - (5) Easy-to-handle
- (1) - (5) Mainly made of copper +
 (3) With tin (Sn)
 (3) With chromium (Cr) and zirconium (Zr) → PHC



Height of contact wires

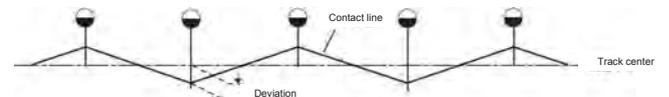


Standard height of contact wires is 5m from the rail surface.
 When working under contact wires, workers need to be careful with handling of long objects.

Contact wire deviation



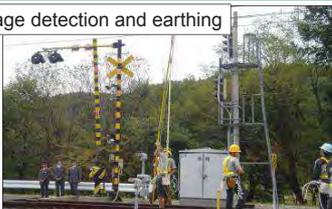
Top view of overhead contact lines



Deviation within 250mm from the track center (Shinkansen: within 300mm)

Maintenance of overhead contact lines

(1) Voltage detection and earthing



(2) Power operated work

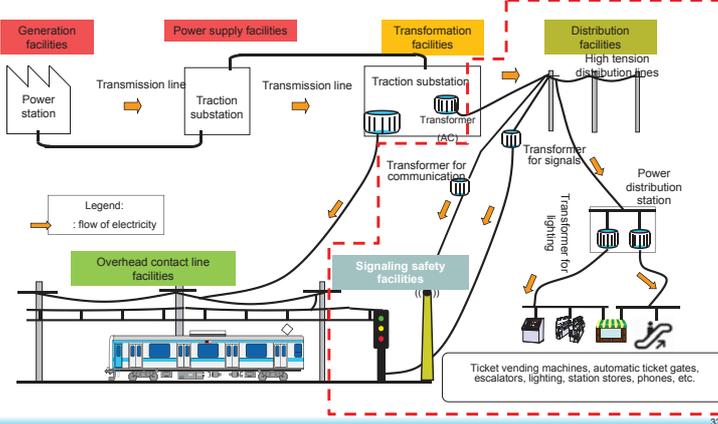


(3) Ladder work



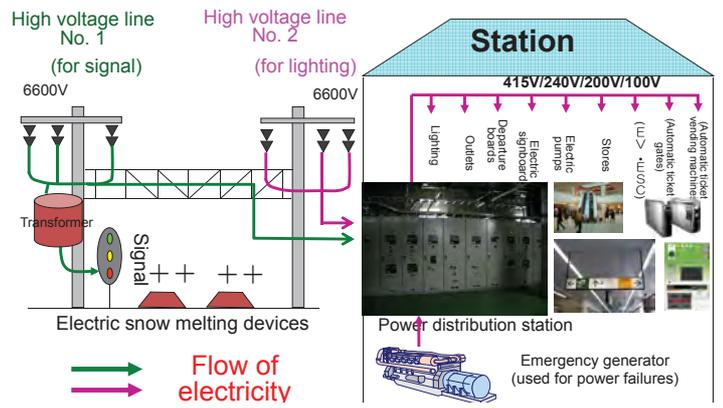
5. Power distribution

Outline of electric facilities



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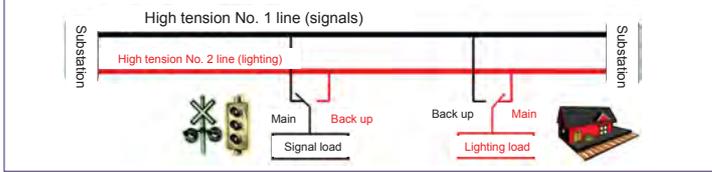
High voltage distribution lines and load systems



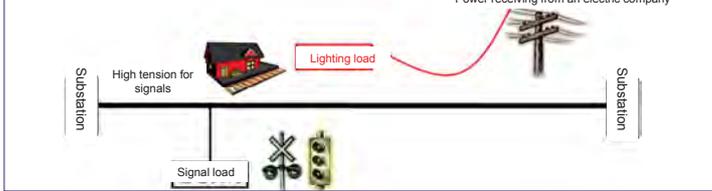
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High tension distribution lines

【High tension double line mutual back up method】



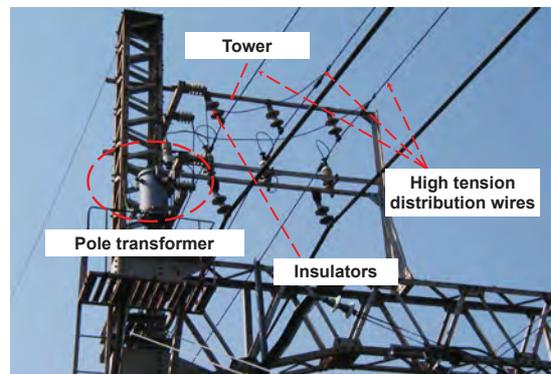
【High tension single line section】



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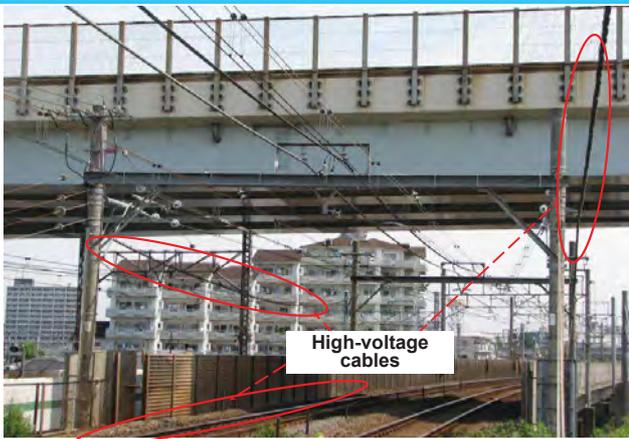
Overhead distribution lines (electric wires)

Overhead distribution lines consist of electric wires, cables, overhead ground wires, insulators, and their supports.



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Aerial distribution line (cable)



37

Aerial distribution line (countermeasures against lightning damage)

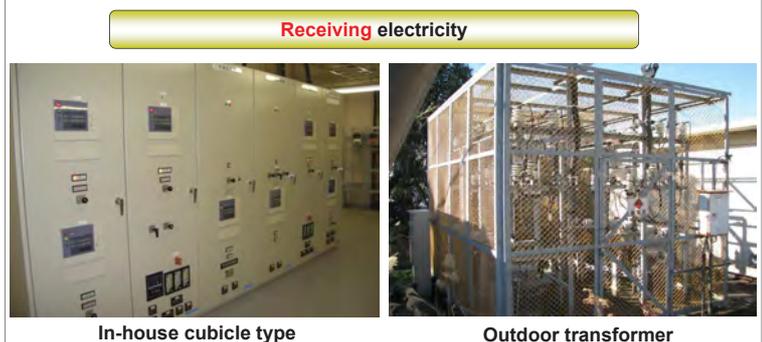


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Electricity flow to load systems



High tension receiving and distributing facilities



While receiving and distributing electricity, preventing accidents and effects to other systems.

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Transformer

Transforming electricity



Transforming from 6600 V to 400 V/200 V/100 V, etc.

Transformer

Transforming AC voltage to required voltage

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Low tension distributors

Distributing electricity



In house low tension distributors

Distributing transformed electricity to each load system

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Low tension trunk lines

Distributing electricity



Low tension trunk line cables

Constructing electric lines from low tension distributors to each load divider

43

Distribution switchboard

Distributing electricity



Distribution switchboard

Constructing branch circuits connected with low tension trunk lines for power supply to various load systems such as lighting

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Load systems

Using electricity



Train departure information display using LED

Electric sign using LED



Automatic ticket gate

Power load

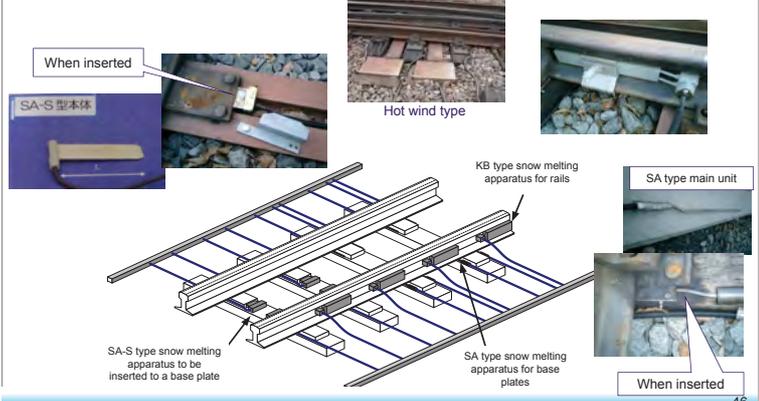
Ticket vending machine

Illumination of Tokyo Station

45

Load system (electric snow melting apparatus)

By melting snow on points and preventing a failure in switching



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3.4 Training material: Service training (8/2-10)

Improvement of Quality of Railway Service

Mr. Mitsuo HIGASHI

Railways Policy Advisor for Myanmar

Myanma Railways is aiming for

- Improvement of Quality of Railway Service,
- And the 100days plan already target on service improvement of railway employees.
- This March, JICA introduced the service training which composed by the methods, PDCA Deming cycle, Kaizen step and group discussion.
- Now JICA plans next Railway Seminar for Improvement of Quality of Railway Service, which is positioned that as kick-off training of the whole 11 division.

(1) Kick-off training of the whole 11 division

- Training aims for raising the opinion that:
- Railway should value most is customer satisfaction and
- Should act and provide solutions for the wants of the customers.

(1) Kick-off training of the whole 11 division

- 3rd August – 5th August
- At Seminar House of Naypyidaw
- Participants: Station leader staffs from the whole 11 division.
- The number of participants: 40 people(3 or 4 each from 11 division)
- The person who will become leader of each division of planning and promote improvement of quality of railway service.

(1) Kick-off training of the whole 11 division

- Trainee should learn some methods of quality management, techniques, and discuss issue of service improvement for each station.
- Training program is almost same as March.

(2) Joint 2 days training for Model Stations

- 8th and 9th August
- At Yangon station meeting room(uncertain)
- Choose 5 model stations(draft): Yangon, Insein, Danyingon, Mingalardon, Bago
- Joint training of station master and leader staff for service improvement
- Total 25 people from 5 stations(station staffs and station masters)

(2) Joint 2 days training for Model Station

- Station masters should establish the principle of the customer first,
- And quality control is set as a basic policy of management.
- The leader staff will discuss issues of service improvement for each station.
- Station master and leader staff make target of service jointly.
- Minister of Transport will inspect and encourage the seminar, and also open to the press.

Improving service of Myanmar Railway
Workshop by JICA



Establishment of Mechanisms for Improving Customer Satisfaction



Raising the opinion that Railway should value most is customer satisfaction and should offers solutions to the needs and wants of the customers.



Introduction of method of service improvement .

Awareness (KIZUKI) & PDCA (KAIZEN)

Presented by Mr. Mitsuo Higashi, Railways Policy Advisor for Myanmar ¹

Establishment of Mechanisms for Improving Customer Satisfaction

Modernization program is proceeding from short-term to middle-term now. Establishment of Mechanisms for Improving Customer Satisfaction is very important item for the next phase.

For providing services and products with which customers are satisfied ,We are planning workshop about railway service including all management .

Improvement of the levels of services is can be established by strengthening not only improving functions of equipment and facilities but also Change of Value and Change of Mentality.

Since the organizations depend on their customers, they should understand current and future customer needs, and meet customer requirements and should try to exceed the expectations of customers.

3

MD Work Shop 2016. 3. 28



For providing services and products with which customers are satisfied ,We are planning workshop about railway service including all management . Improvement of the levels of services is can be established by strengthening not only improving functions of equipment and facilities but also Change of Value and Change of Mentality.

2

Railway should value most is customer satisfaction

The first purpose of this workshop is raising the opinion that Railway should value most is customer satisfaction and should offers solutions to the needs and wants of the customers.

Basic Management Policies should be established as like the eight quality management principles are defined in ISO 9000:2005

ISO 9000 series are based on eight quality management principles

Principle 1 Customer focus

Principle 2 Leadership

Principle 3 Involvement of people

Principle 4 Process approach

Principle 5 System approach to management

Principle 6 Continual improvement

Principle 7 Factual approach to decision making

Principle 8 Mutually beneficial supplier relationships

4

Awareness (KIZUKI) & PDCA (KAIZEN) approach

The second purpose of this workshop is introduction of method of service improvement .

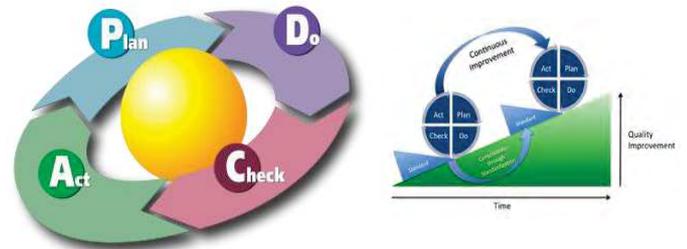
We will discuss how to improve the passenger service in Myanmar practically and learn about PDCA approach and several method.

We will introduce examples of service improvement in Japan and consider passenger service in Myanmar practically .

For change of Mentality MR should know methods of quality management and techniques

5

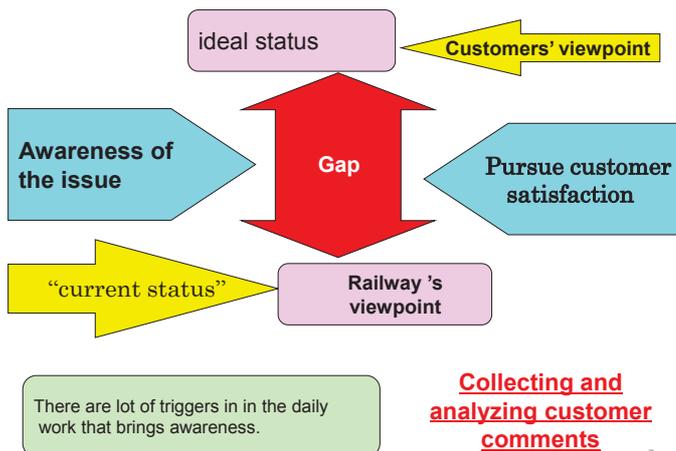
PDCA (KAIZEN) approach



PLAN : establish objectives and processes necessary to deliver results in accordance with communities purposes;
DO: implement processes and achieve objectives;
CHECK: monitor and measure processes against community policy, objectives, compliance obligations ,and report the results;
ACT: take necessary actions to improve performance.

6

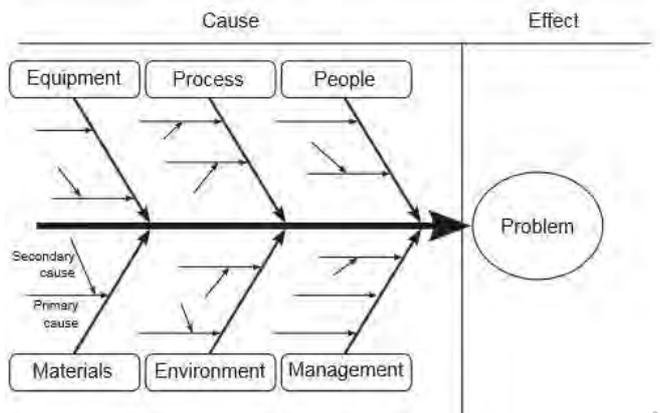
Awareness of the issue



Collecting and analyzing customer comments

7

- Group discussion
- Element analysis of service improvement by Fish born



8

Logic tree (Tree diagram)

The logic tree (tree diagram) decomposes the relationships among events into a tree like shape such as “trunk→branch→twig” by following the logic. As the decomposition proceeds further, the event in question becomes more concrete. Largely logic trees may be classified into three categories

① Whole/part system tree (What tree)

A tree that exhibits what constituencies create an event as a whole by decomposing: the decomposition is processed with repeated queries of “By what it is constituted?”

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9

Upon assessing improvement measures, “Option Matrix” should be a help.

List each improvement measure vertically and set each evaluation item horizontally. Then, assess each improvement measure by scoring, which allows exhibiting the priority by showing total scores.

Evaluation method Once the determination of evaluation items, we will clarify how they are going to be assessed.

For example, there is a method that applies three-grade evaluation for each item: an improvement measure that has a higher total score by the evaluation will be implemented as priority.

10

Option Matrix

Evaluation items	Option A	Option B	Option C	Evaluation
Effect How much improvement effect we can expect?”				
Speed At what point of time, we can see improvement effect?”				
Feasibility “Will it really be able to realize the mprovement?”				
Economy How much money it will take ?				

11

Successful improvement measures

As for successful improvement measures, we should think of the ways to keep the good condition and implement “locking” as a countermeasure.

Locking and Standardization

“Locking” refers to a continuing measure that is implemented so that the effective improvement can take root. By implementing “locking,” the result of improvement can be remained across the workplace.

The basic of locking lies in “standardization” that establishes standards for a certain work and has the entire workplace thoroughly adhere to the standards. With standardization, we will be able to avoid such situations as “I don’t know what to do in case of emergency although I can deal with in usual times.” “Mr.B alone cannot implement it while Mr.A can.” It is critical for us to establish a system where “anybody can achieve the same level at any time.”

Locking (a continuing measure to keep a good condition)

Standardization Anybody can achieve the same level at anytime

Establishing standards

Utilizing standards

12

- **Q1 How do you think about Customer service ? Please make definition of customer satisfaction**
- **Q2 How do you think about element of service quality of railway ?**
- **Q3 How do you improve service of Myanmar Railway ? What can we do as measures ?**
- **Q4 Who is responsible for customer satisfaction ?**
- **Q5 What can you do for improvement of customer satisfaction on your job ?**

13

Challenges for Modernization of Myanmar Railways



Three Challenges for Modernization

- Modernization of infrastructure
- Modernization of human resources
- Modernization of organization and system



Improvement of the levels of services is can be established by strengthening not only improving functions of equipment and facilities but also **Change of Value and Change of Mentality.**



Presented by Mr. Mitsuo Higashi, Railways Policy Advisor for Myanmar

Establishment of Mechanisms for Improving Customer Satisfaction

Modernization program is proceeding from short-term to middle-term now. Establishment of Mechanisms for Improving Customer Satisfaction is very important item for the next phase.

For providing services and products with which customers are satisfied, We are planning workshop about railway service including all management.

Improvement of the levels of services is can be established by strengthening not only improving functions of equipment and facilities but also Change of Value and Change of Mentality.

Since the organizations depend on their customers, they should understand current and future customer needs, and meet customer requirements and should try to exceed the expectations of customers.

Railway should value most is customer satisfaction

The first purpose of this workshop is raising the opinion that Railway should value most is customer satisfaction and should offers solutions to the needs and wants of the customers.

Basic Management Policies should be established as like the eight quality management principles are defined in ISO 9000:2005

Leaders of an organization establish unity of purpose and direction in which people can become fully involved in achieving the organization's quality object

MR should know methods of quality management and techniques

ISO 9000 series are based on **eight quality management principles.**

Principle 1 Customer focus

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Awareness (KIZUKI) & PDCA (KAIZEN) approach

The second purpose of this workshop is introduction of method of service improvement.

We will discuss how to improve the passenger service in Myanmar practically and learn about [PDCA approach and several method.](#)

We will introduce examples of service improvement in Japan and consider passenger service in Myanmar practically.

For change of Mentality MR should know methods of quality management and techniques

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PLAN: establish objectives and processes necessary to deliver results in accordance with communities purposes;

DO: implement processes and achieve objectives;

CHECK: monitor and measure processes against community policy, objectives, compliance obligations, and report the results;

ACT: take necessary actions to improve performance.

JREAST

By achieving a level of service that only JR East can provide, we aim to meet the expectations of both local communities and our service users, thereby alleviating grievances and meeting future needs.

To attain this goal, we understand that it is critically important for us to constantly pay attention to customer comments, to learn, for example, exactly what JR customers are interested in or what annoys them, and thus steadily make improvements.

We gather customer comments on a daily basis through a wide-ranging system that includes collection by front line employees, via the Internet and from customer help desks. We are implementing a company-wide initiative to develop a system capable of identifying relevant comments and sharing them with the appropriate departments that can then initiate moves that will lead to improvements in all aspects of our services. We gratefully accept customer comments and act from a customer viewpoint. We believe the origin of customer satisfaction is in each and every customer comment.

Teamwork

In order to guarantee customer satisfaction, we have designated service promoters operating at many front line workplaces.

Furthermore, with a clear awareness that all efforts eventually lead to improved customer satisfaction, we hold regular customer service training sessions and symposiums that involve all Group employees, from top management to front line employees.

We are continually working to create a corporate culture where each employee aims to enhance customer satisfaction, by targeting not only front line employees, but also those in sections that do not have direct contact with customers.

Responding to customer comments

Based on customer comments gathered and social conditions, we take measures to improve customer satisfaction.

Transport Services Improvements
More Comfortable On-board Air Conditioning
Improvements in Station Toilets
Personal Greetings Campaign

Mechanisms for Improving Customer Satisfaction ANA

The ANA Group's Service Quality Management

The ANA Group is thoroughly committed to the quality of the products and services it offers to customers. We believe that continuing improvement leads to ever-higher customer satisfaction and the creation of value. For that reason, we have established a cycle of accurately assessing the current status of quality linked to specific improvement measures, and regularly ascertain our progress through the Brand Strategy Committee.

Overview of Service Quality Management



- Q1 How do you endeavor to improve your employees' customer skills? Any concrete research on this problem, or developments such as employee manuals for handling customers would be of interest to us.
- Q2 What are the most common customer comments when rail service is disrupted? How are you organized to respond to these situations?
- Q3 How do you collect customer comments and opinions?
- Please give us any recent examples where you have improved service based on comments from customers.
- Q4 Up to now how have you proceeded in relation to creating a barrier-free system? In the future what do you think will be similar themes that must be pursued

Customer satisfaction

Every job, without exception, affects customers.

Needless to say, the improvement of service quality such as ensuring safe and punctual transportation would directly contribute to customer satisfaction.

Improvements such as "Cost down," "Productivity improvement," or "Response to environmental issues (ecology)" lead to customer satisfaction ultimately as well as customers' peace of mind and trust from communities.

What is your own role to do?

In order to pursue customer satisfaction thoroughly, We should have "awareness of the issues"

What is the issue?

The issue is a gap between "current status" and "ideal status"

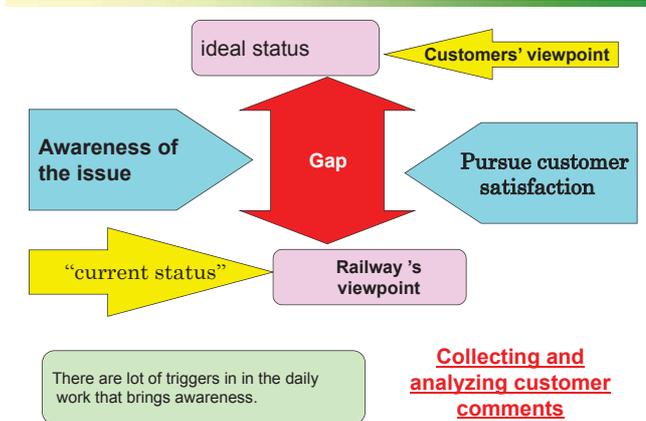
You need to understand "What's the issue" in order to conduct improvement activities.

An issue can be defined as a gap between "current status" and "ideal status."

Current status mean the situation at present or the one projected in the near future.

Ideal status mean such a situation that is supposed to be, qualified, expected, desired, or ideally exemplified.

Awareness of the issue



3

A trigger for "awareness"

There are lot of triggers in in the daily work that brings awareness.

What you felt "something is wrong" "that's what should have been"

Troubles on your work

Customers' voices

My crisis experience

Issues discussed at various activities or meetings in the workplace

Improvement through PDCA cycle

PDCA is an initializing term, combining Plan, Do, Check, and Action.

It expresses a fundamental cycle for business improvement.

Plan To identify an issue and formulate effective improvement measures for the root cause of the issue.

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The essence of the PDCA cycle is

"continued improvement.",

It is not completed with one time rotation of "P→D→C→A." On the contrary, it is imperative to repeatedly rotate the cycle as P→D→C→A→P→D→...."

It starts with a thorough analysis on the current situation first, and decides a solution(s) to be implemented from various ideas generated, and then implement it surely.

And the cycle rotates by formulating the next action after fairly assessing the result.

The PDCA cycle was advocated by Dr. W. Edwards Deming who was the authority in quality control and others. In the 1980s, when the Japanese manufacturers including Toyota had emerged in the global market, the PDCA cycle as well came to attract attention as a measure that supported the surge of Japanese manufacturers.

Example of quantitative index

Service improvement

- Number of praises • Number of complaints • Number of users
- Customer's waiting time

Safety improvement

- My crisis experience

Productivity improvement

- Working time • Working headcounts • Work cost
- Work productivity (processing time per unit)
- Labor productivity (processing volume per headcount)
- Facility efficiency

Sales increase/Cost down

- Sales amount • Number of tickets sold • Cost incurred

Improvement in ecology

- Garbage volume • Recycle paper usage rate

We need to reveal a root cause (core cause) that has caused an issue from the viewpoint of "Why the current status has come up?"

We should explore every possibility that could cause the issue, and then narrow down to a root cause by verifying through factual data.

A root cause is not necessarily a single one. Rather, it could be said that multiple causes interact each other and invite an issue as a result in the majority of cases. On the other hand, it is difficult as well as inefficient to take countermeasures for each of possible cause.

Among the various causes, a root cause that highly attributes to an issue should be narrowed down as a "core cause."

Taking appropriate improvement measures to the core cause allows efficient and effective improvement.

The important thing in pursuing a core cause is that to identify it based on fact as we did in grasping the current status.

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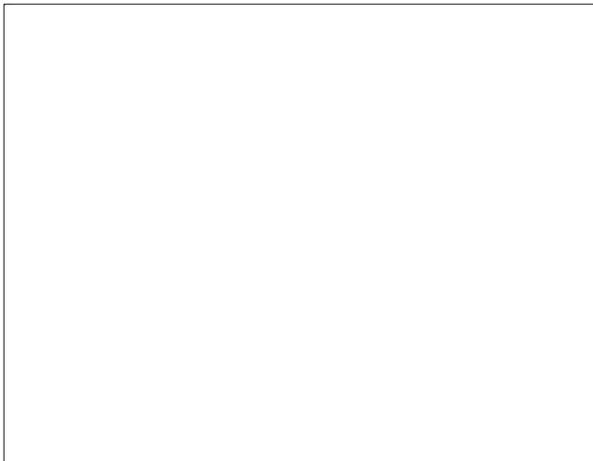
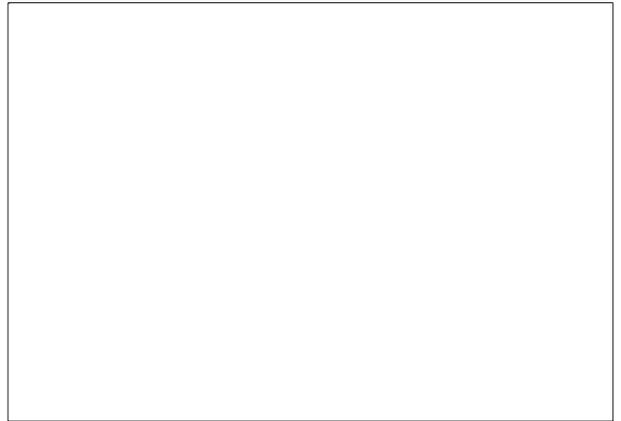
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For example, we can make a deeper analysis in seeking causes for the decrease of users for a service by utilizing a Why tree.

Why? Users for the service are decreasing

Why? There is dissatisfaction in the service contents.

Why? There is dissatisfaction in the way of delivering the service.

There are no services that customers want to use.

The fee for the service is expensive.

The service lacks consistency in the quality.

The business hour for the service counter is limited.

The services counter's response is bad.

The service counter is hard to be found.

Characteristic-factor chart

A characteristic-factor chart systematically summarizes the relationship between a characteristic (outcome) and factors that affect the characteristic. Since the systematized chart takes a form looking like a fish bone shape, it is called as another name of "fish bone."



The creation processes for a characteristic-factor chart are as follows:

《Process1》 Determination of characteristic

Determine the characteristic to be addressed and write it down in the right side with a big frame surrounding it. Using description that can provide a specific image of the issue state would be recommended such as "Taking time for entering and leaving the yard."

《Process2》 Drawing a factor backbone

Draw a backbone (horizontal arrow) heading to the characteristic.

《Process3》 Drawing factor big bones

Write down factors that are deemed to affect the characteristic as big bones. Specifically, draw a big bone from diagonally backward left heading to the backbone and then write the factor at the end of the big bone with a frame surrounding it.

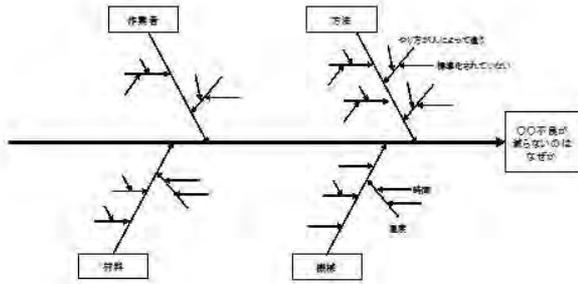
《Process4》 Drawing factor middle/small/grand small bones

For each big bone, draw middle/small/grand small bones by repeating break down queries "Why" "Why" and "Why" to break down the factor. Draw a middle bone parallel to the backbone, a small bone parallel to the big bone, and a grand small bone parallel to the backbone, and write a factor at the end of each bone.

《Process5》 Confirmation of the factor

Check the depicted chart if there is any omission or if any relation between the characteristic and the factors is uncertain. Complete the chart with necessary revisions and additions.

特性要因図



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Evaluation items/method

Evaluation items

Effect

This is an item to evaluate “How much improvement effect we can expect?”

Needless to say, an improvement measure that has a larger improvement effect should be prioritized.

Speed

This is an item to evaluate “At what point of time, we can see improvement effect?”

An improvement measure that has an earlier improvement effect should be prioritized.

Feasibility

This is an item to evaluate “Will it really be able to realize the improvement?”

This will assess the risk associated with the realization such as “Is it feasible, given requiring high technology?” “This essentially requires cooperation with outside entities. Will we be able to ensure such cooperation?”

Economy

This is an item to evaluate “How much money it will take to implement?”

However improvement effect is expected, it is difficult to be implemented for improvement measures that require substantial cost exceeding the tolerance.

Successful improvement measures

As for successful improvement measures, we should think of the ways to keep the good condition and implement “locking” as a countermeasure.

Locking and Standardization

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The basic of locking lies in “standardization” that establishes standards for a certain work and has the entire workplace thoroughly adhere to the standards. With standardization, we will be able to avoid such situations as “I don’t know what to do in case of emergency although I can deal with in usual times.” “Mr.B alone cannot implement it while Mr.A can.” It is critical for us to establish a system where “anybody can achieve the same level at any time.”

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Standardization Anybody can achieve the same level at anytime

Establishing standards

Utilizing standards

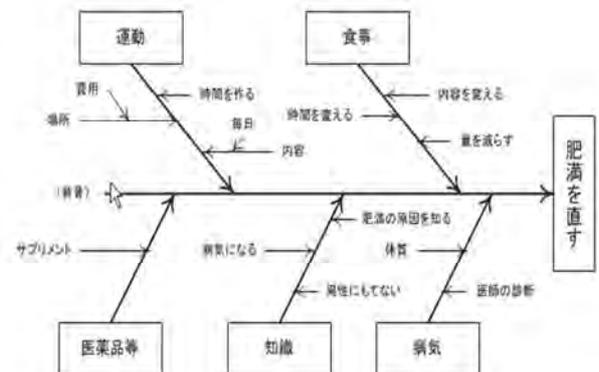
The first step of standardization is to establish standards on the way to conduct a certain work.

① Documentation of know-how on improvement

Document know-how acquired through planning/implementation of successful improvement measures in such a manner that clarifies “What should be implemented with what kind of processes in order to succeed.”

② Issue a manual to be available for anybody

In order to turn the documented know-how into standards, we need to summarize working processes and the like, and edit into a manual so that they can be available for anybody.



10Kgダイエット成功



系統図

マトリクス図



Improvement of Quality of Railway Service

Challenges for Modernization of Myanmar Railways

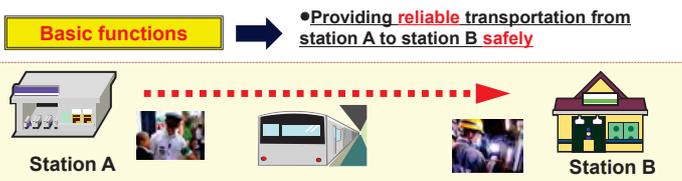
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- Modernization of infrastructure
 - Modernization of human resources
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Mr. Mitsuo HIGASHI

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Service Quality



Improving comfort and convenience

- Improving transportation quality
Work as a team beyond the borders of departments, and promptly improve our service quality
 - Listening to customer comments
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- Create a culture of "think by oneself, act by oneself" from the customer's perspective
- Example of "Greeting / support movement"

21

Railway Seminar for Improvement of Quality of Railway Services

- Myanmar Railways now trying to establish of management policy that Myanmar railways from front-line to top all people comes together to work to improve the railway services and tackle to improvement customer satisfaction. And the 100days plan already target on service improvement of railway employees.
- This March, JICA introduced the service training which composed by the methods, **PDCA Deming cycle, Kaizen step and group discussion**. From this march JICA supported this work shop and dispatched trainer

This time Myanmar Railway plan Workshop for improvement customer satisfaction and this Railway Seminar is positioned that as **kick-off training of the whole 11 division**.

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MD Work Shop 2016. 3. 28



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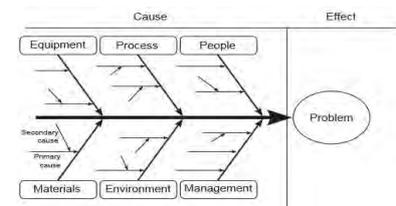
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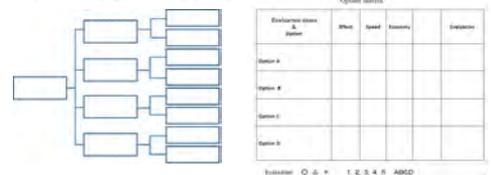
Element analysis of service improvement by



Fish born

Logic tree

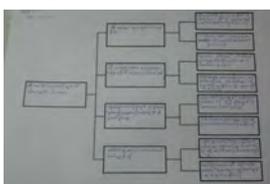
Option Matrix



Group discussion by KAIZEN methods



The logic tree (tree diagram)



Option Matrix



(1) Kick-off training of the whole 11 division

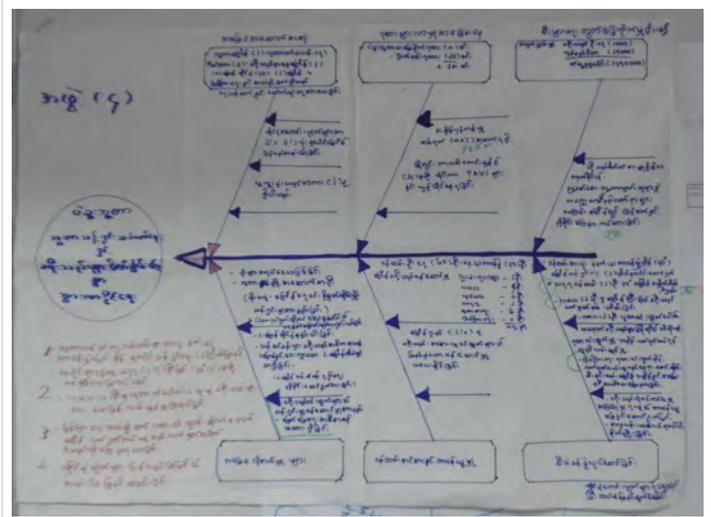
- 3rd August – 5th August
- At Seminar House of Naypyidaw
- Participants: Station leader staffs from the whole 11 division.
- The number of participants: 40 people (3 or 4 each from 11 division)
- The person who will become leader of each division of planning and promote improvement of quality of railway service.

(2) Joint 2 days training at Yangon

- 8th and 9th August
- At Yangon 5 model stations (draft): Yangon, Insein, Danyingon, Mingalardon, Bago
- Joint training of station master and leader staff : 25 people from 5 stations (station staffs and station masters)

Joint 2 days training for Model Station

- Station masters should establish the principle of the customer first, and quality control is set as a basic policy of management. The leader staff will discuss issues of service improvement for each station. Station master and leader staff make target of service jointly.



Five tips for hospitality

This section introduces tips for truly effective delivery of “eye contact, smiles and greetings,” which are the basics of customer service. There are 5 tips, as follows.

Five tips for hospitality

Tip 1 Expression

Tip 2 Wording

Tip 3 Diction

Tip 4 Way of looking

Tip 5 Attitude & behavior

Tip 1 Expression

Consciously choose your wording according to the situation.

Raise the corners of your mouth for a friendly smile!

When just standing by, adopt an expression that makes it easy for customers to talk to you.

- "Have you ever thought about how the organization called Myanmar Railways is perceived by customers? By changing your viewpoint, you can see things that you were unable to see until now. Let's start by reexamining the company where we work, Myanmar Railways."
- What we have practiced today will lead to customer delight. Let's continue to push forward toward being a “friendly and warm” railway company that delivers “smiles” and “delight” on “an everyday basis” to our customers.

3.5 Training material: Service training (10/8-13)

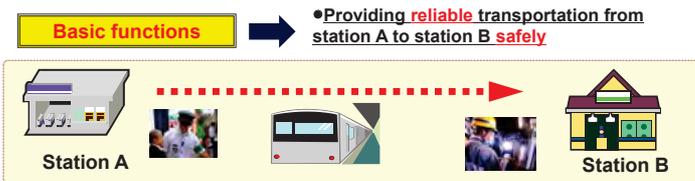
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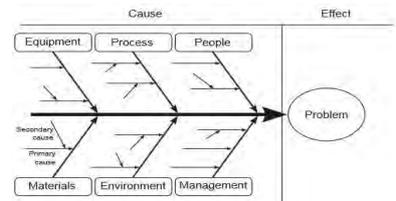
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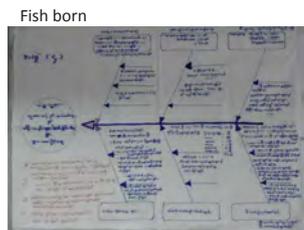
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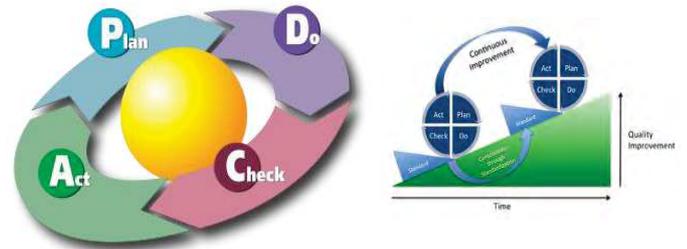
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What is the issue?

The issue is a gap between “current status” and “ideal status ”

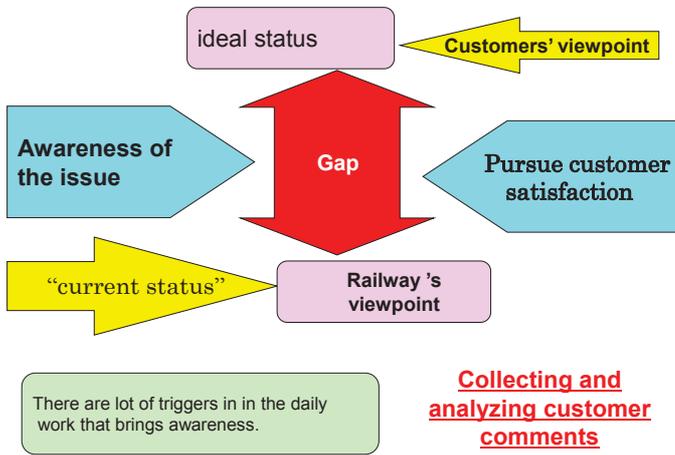
You need to understand “What’s the issue” in order to conduct improvement activities.

An issue can be defined as a gap between “current status” and “ideal status.”

Current status mean the situation at present or the one projected in the near future.

Ideal status mean such a situation that is supposed to be, qualified, expected, desired, or ideally exemplified.

Awareness of the issue



3

A trigger for "awareness"

There are lot of triggers in in the daily work that brings awareness.

What you felt "something is wrong" "that's what should have been"
 Troubles on your work
 Customers' voices
 My crisis experience
 Issues discussed at various activities or meetings in the workplace

We need to reveal a root cause (core cause) that has caused an issue from the viewpoint of "Why the current status has come up?"

We should explore every possibility that could cause the issue, and then narrow down to a root cause by verifying through factual data.

A root cause is not necessarily a single one. Rather, it could be said that multiple causes interact each other and invite an issue as a result in the majority of cases. On the other hand, it is difficult as well as inefficient to take countermeasures for each of possible cause.

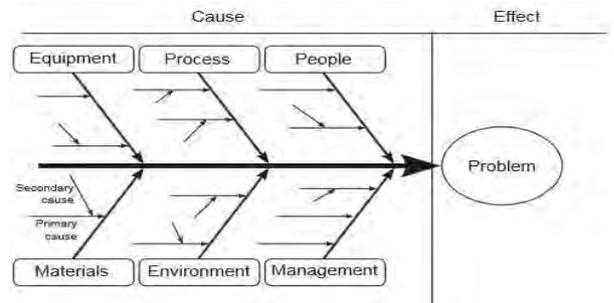
Among the various causes, a root cause that highly attributes to an issue should be narrowed down as a "core cause."

Taking appropriate improvement measures to the core cause allows efficient and effective improvement.

The important thing in pursuing a core cause is that to identify it based on fact as we did in grasping the current status.

Characteristic-factor chart

A characteristic-factor chart systematically summarizes the relationship between a characteristic (outcome) and factors that affect the characteristic. Since the systematized chart takes a form looking like a fish bone shape, it is called as another name of "fish bone."



The creation processes for a characteristic-factor chart are as follows:

《Process1》 Determination of characteristic

Determine the characteristic to be addressed and write it down in the right side with a big frame surrounding it. Using description that can provide a specific image of the issue state would be recommended such as "Taking time for entering and leaving the yard."

《Process2》 Drawing a factor backbone

Draw a backbone (horizontal arrow) heading to the characteristic.

《Process3》 Drawing factor big bones

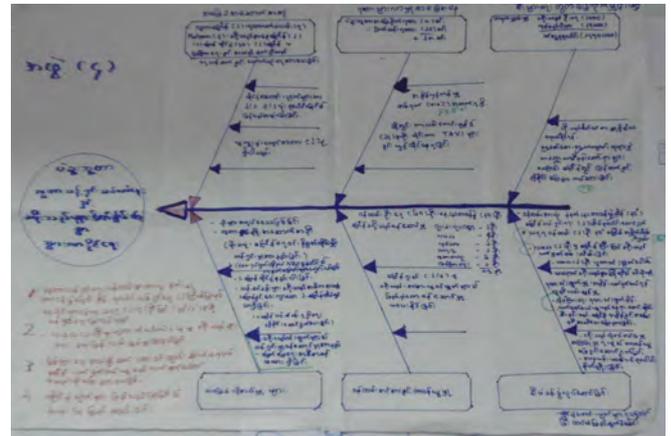
Write down factors that are deemed to affect the characteristic as big bones. Specifically, draw a big bone from diagonally backward left heading to the backbone and then write the factor at the end of the big bone with a frame surrounding it.

《Process4》 Drawing factor middle/small/grand small bones

For each big bone, draw middle/small/grand small bones by repeating break down queries "Why" "Why" and "Why" to break down the factor. Draw a middle bone parallel to the backbone, a small bone parallel to the big bone, and a grand small bone parallel to the backbone, and write a factor at the end of each bone.

《Process5》 Confirmation of the factor

Check the depicted chart if there is any omission or if any relation between the characteristic and the factors is uncertain. Complete the chart with necessary revisions and additions.



Logic tree (Tree diagram)

The logic tree (tree diagram) decomposes the relationships among events into a tree like shape such as "trunk→branch→twig" by following the logic. As the decomposition proceeds further, the event in question becomes more concrete. Largely logic trees may be classified into three categories

①Whole/part system tree (What tree)

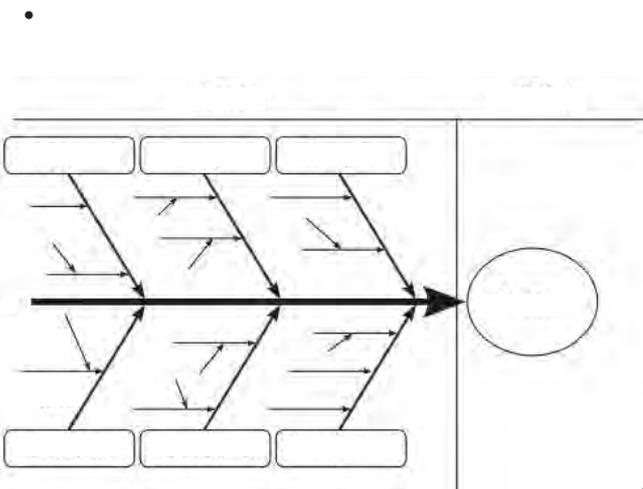
A tree that exhibits what constituencies create an event as a whole by decomposing: the decomposition is processed with repeated queries of "By what it is constituted?"

②Outcome/cause system tree (Why tree)

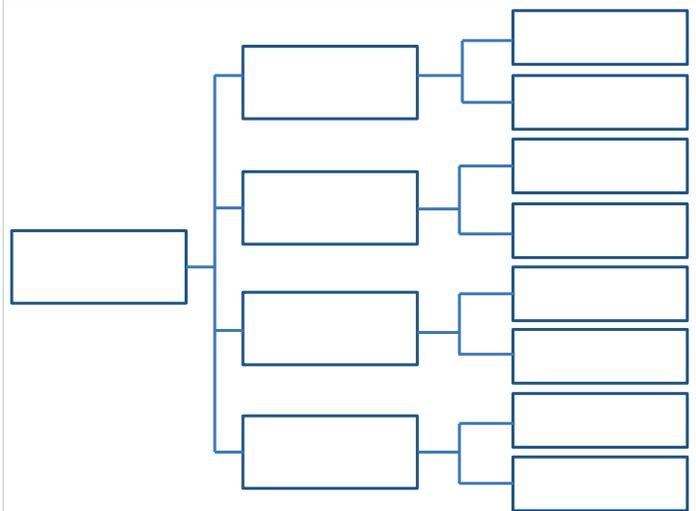
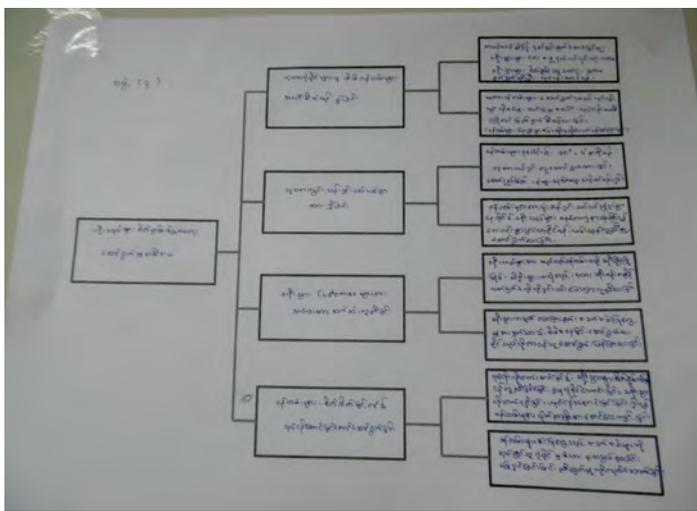
A tree that exhibits a causal relationship by decomposing: the decomposition is processed with repeated queries of "Why the outcome has come up?"

③Goal/measure system tree (How tree)

A tree that exhibits a relationship between a goal and measures to achieve the goal by decomposing: the decomposition is processed with repeated queries of "How the goal can be achieved?"



23



Upon assessing improvement measures, “Option Matrix” should be a help.

List each improvement measure vertically and set each evaluation item horizontally. Then, assess each improvement measure by scoring, which allows exhibiting the priority by showing total scores.

Evaluation method Once the determination of evaluation items, we will clarify how they are going to be assessed.

For example, there is a method that applies three-grade evaluation for each item: an improvement measure that has a higher total score by the evaluation will be implemented as priority.

Option Matrix

Evaluation items & Option	Effect	Speed	Economy		Evaluation
Option A					
Option B					
Option C					
Option D					

Evaluation ○ △ × 1. 2. 3. 4. 5 ABCD

Option Matrix each improvement measure by scoring, which allows exhibiting the priority by showing total scores.

Evaluation items & Option	Effect	Speed	Economy	Other	Evaluation
Option A	3	4	2	2	11
Option B	4	4	2	2	12
Option C	2	2	1	1	6
Option D	3	1	3	2	9

Three-grade evaluation ○ △ × Five-grade evaluation 1. 2. 3. 4. 5

Successful improvement measures

As for successful improvement measures, we should think of the ways to keep the good condition and implement “locking” as a countermeasure.

Locking and Standardization

“Locking” refers to a continuing measure that is implemented so that the effective improvement can take root. By implementing “locking,” the result of improvement can be remained across the workplace.

The basic of locking lies in “standardization” that establishes standards for a certain work and has the entire workplace thoroughly adhere to the standards. With standardization, we will be able to avoid such situations as “I don’t know what to do in case of emergency although I can deal with in usual times.” “Mr.B alone cannot implement it while Mr.A can.” It is critical for us to establish a system where “anybody can achieve the same level at any time.”

Locking (a continuing measure to keep a good condition)

Standardization Anybody can achieve the same level at anytime

Establishing standards

Utilizing standards



- "Have you ever thought about how the organization called Myanmar Railways is perceived by customers? By changing your viewpoint, you can see things that you were unable to see until now.

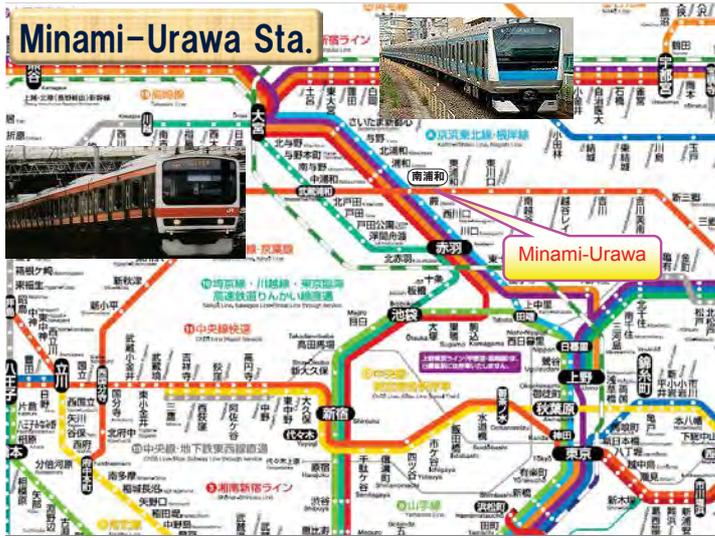
Let's start by reexamining where we work, Myanmar Railways.

- What we have practiced today will lead to customer delight. Let's continue to push forward toward being a “friendly and warm” railway company that delivers “smiles” and “delight” on “an everyday basis” to our customers.

Customer Service Improve Example in JR East



Japan International Consultants
For Transportation Co., Ltd.
Takahiro KURAMOCHI



1. Research

(1) Collecting customers' voice



5

1. Research

(1) Collecting customers' voice by the "New Green Information System"

related to Minami-Urawa Station were...

2011 → **473** comments

and we tried to extract which we can improve by ourselves

7

My Working Experience in JR East

- Minami-Urawa Station
 - Ticket Office
 - Ticket Inspector
 - Platform Operations Office
- Omiya Conductors Office
 - Train Conductor of JR Saikyo / Kawagoe Line
 - Connecting Tokyo and the Northern Suburbs



Minami-Urawa Station

- Located in Northern suburban area in Tokyo
- Transfer station of
 - "Keihin-Tohoku Line (North-South commuter corridor line of Tokyo)"
 - and "Musashino Line (Outer circular line of Tokyo)"
- Usage: 60,000 persons per day
- Transfer: 200,000 persons per day

4

1. Research

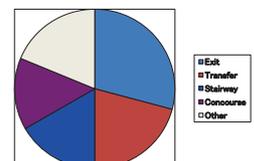
- "New Green Information System"
 - Every customer voice whole JR East is registered the system



1. Research

(1) Customer voices which we can improve ourselves were:

- Difficult to find the exit/transfer train: 14 comments 29.1%
- Difficult to find transfer information: 10 comments 20.8%
- Stairway Up/Down Partition 8 comments: 16.6%
- Concourse Forward/Backward Partition: 7 comments 14.5%
- Fix the bumps, etc.: 4 comments 8.3%
- Difficult to find the restrooms: 2 comments 4.1%
- Congestions are dangerous: 2 comments 4.1%
- Difficult to find the escalators: 1 comment 2%



8

1. Research

(1) Customer voices which we can improve ourselves were:

- Difficult to find the exit/transfer train 14 comments 29.1%
- Difficult to find transfer information 10 comments 20.8%

about Transfer trains / Exit
50%

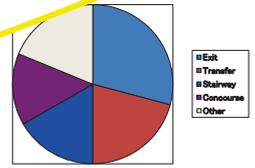


1. Research

(1) Customer voices which we can improve ourselves were:

Congestions are dangerous 4.1%

- Difficult to find the restrooms 2 comments 4.1%
- Congestions are dangerous 2 comments 4.1%
- Difficult to find the escalators 1 comment 2%



1. Research

(2) Not so many voices, but needed to improve:

Better congestion on the platform to prevent an accident



2. Focus to improve

Improve point from customers' voices

Station staff also recognize to improve:

- Improving station's information signs for transfer trains/exit
- Prevent an accident on the platform

3. Study on the present situations

Train transfer signs



3. Study on the present situations

Train transfer/exit signs



3. Study on the present situations

Safety on the platform



4. Case Study on other Stations

Shibuya



4. Case Study on other Stations

Shinjuku



17

4. Case Study on other Stations

Akihabara



18

4. Case Study on other stations

Nishi-Funabashi



19

4. Case Study on other stations

Nishi-Kokubunji



20

4. Case Study on other stations

Kita-Senju



21

4. Case Study on other stations

Higashi-Urawa



22

Planning to improve

Making improvement plan



Discuss with each section members of station



Modify and put the plan into practice

23

Action-1 ①

Making Signs



24

Action-1 ①

Transfer Signs



Action-1 ①

Transfer Signs



Action-1 ①

Transfer Signs



Action-1 ①

Exit Signs



Action-1 ①

Transfer Signs



Action-1 ①

Transfer Signs at concourse



Action-1 ①

Transfer/Exit Signs at concourse



Action-1 ①

Transfer Signs at concourse



Action-1 ②

Station Information Map



33

Action-1 ②

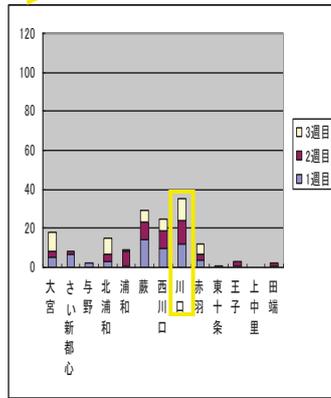
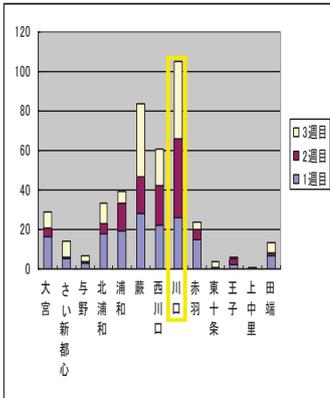
Station Information Map



Check-1

Inquiries at ticket gate

reduced 60%



Action-1 ③

Signs on the stairways (Before)



37

Action-1 ③

Signs on the stairways (Plan)



38

Action-1 ③

Signs on the stairways (After)



39

Action-2

Paint on the platform to keep safety in rush hours



40

Action-2

Paint on the platform to keep safety in rush hours

()



Check-2

Before (Morning rush hours)



43

Action-2

Paint on the platform to keep safety in rush hours

(Boarding point)



Action-2

After (Morning rush hours)



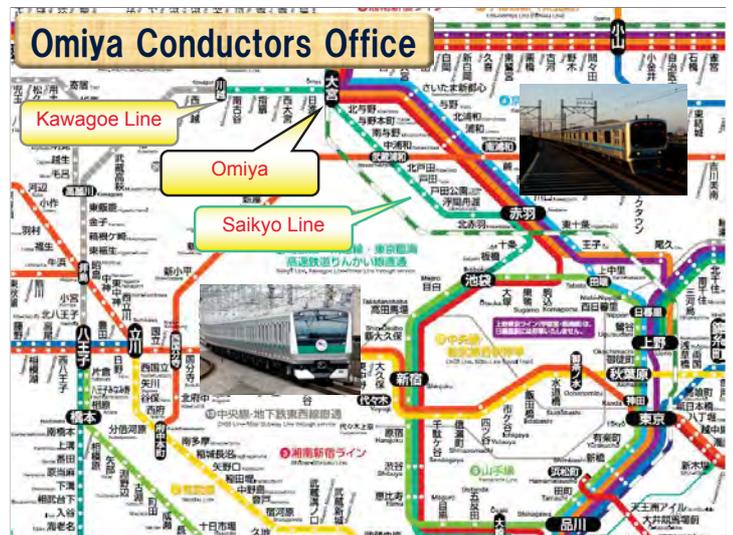
44

Action-2

"Please do not stop at passage"



45



Omiya Conductors Office

- What is a service of conductors?
 - Safety
 - On time operation
 - Announcement
 - Response for inquiries

47

Service Improvement Commission



Omiya Branch Office Operation Contest



49

Customer Service Improve Example in JR East



Japan International Consultants
For Transportation Co., Ltd.
Takahiro KURAMOCHI

3.6 Training material: Service training (1/16-21)
(We also used the material for October)

Overview of Service Improvement Workshop 2016 by JICA



**Establishment of Mechanisms for Improving Customer Satisfaction:
Reform the organization to aims for Improve Customer Satisfaction.**

Introduction of the methods of service improvement to the front of the Myanmar Railways

Awareness (KIZUKI) & PDCA (KAIZEN)

Presented by Mr. Mitsuo Higashi, Railways Policy Advisor for Myanmar ¹

Overview of Service Improvement Workshop 2016

- 1-1. Mar. 2016: Kick-off workshop/Trial training in the HQ
- 1-2. May. 2016: Proposals for service seminar to the Minister/Mandate by the Minister
- 2. Aug. 2016: Service leaders' seminar in Nay Pyi Taw/Yangon area service leaders' seminar
- 3. Oct. 2016: Service leaders' seminar in Yangon Sta. and customer interview by GM/Station Master
- 4. Jan. 2017: Station master & service leaders' seminar in Yangon/Mandalay
- 5. Comments for Service Improvement Seminar 2016
- 6. Draft Plans for 2017 and future
- 7. Customer Interview
- 8. Personal Proposal

2

1-1. Mar. 2016: Kick-off workshop/Trial training in the HQ
1-2. May. 2016: proposals for service seminar to the Minister/
Mandate by the Minister

- **Improvement of the levels of services is can be established by strengthening not only improving functions of equipment and facilities but also Change of Value and Change of Mentality.**



3

2. Aug. 2016: Service Leaders' Seminar in Nay Pyi Taw Yangon Area Service Leaders' Seminar



4

2-1. Aug. 2016: Articles



2-2. Aug. 2016: Media



6

3. Oct. 2016: Service Leaders' Seminar in Yangon Sta. Customer Interview by GM/Station Master



7

3-1. Oct. 2016: Articles The Standard Time Daily 12th Oct.



8

3-2. Oct. 2016: Articles DEMOCRACY today 12th Oct.



4. 17th-18th Jan. 2017: Station Master & Service Leaders' Seminar in Yangon/Mandalay

- We held the service improvement seminar in Yangon three times.
- The seminar in Yangon will be the “Check” phase of PDCA cycle, as a follow up of this three months, after last seminar in October.
- The seminar in Mandalay will be the “Do” phase of PDCA cycle, as the first step to expand nationwide.

3-3. Oct. 2016: Media



5. Comments for Service Improvement Seminar 2016

- Railway staffs will aware of service improvement, and they know what are the problems for customers.
- Customers are eager to visible change of railways. That is why service improvement will make major impacts on the people and media.
- MR should continuously promote the service improvement and come through the expectation of customers.

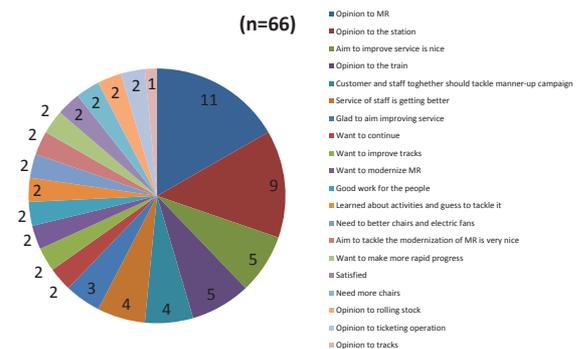
6. Draft Plans for 2017 and future

- “The Project on Improvement of Railway Service and Rolling Stock Maintenance” will start in 2017, and last for four years.
- First year: Establishing PDCA cycle for the service improvement
- Second year: Skill training (such as announcement and cleaning)
- Third year: Expand for all divisions, whole the MR
- Fourth year: Improve new service manual & formulation

7. Customer Interview 12:

Now, YGN Station and MR are trying to service improvement fir the customers.

Can you give us your opinion with that?



7. Customer Interview 12:

- Opinion to MR
 - Need to help by wheelchairs, need to clean up, more gently staff, appropriate maintenance, more information by conductors, etc.
- Opinion to the station
 - Clean up, modernization, more guards, better buildings, need more announce, thanks for getting better, etc...
- Opinion to the train
 - Clean up, need more trains, schedule is getting to on time but need more accuracy, opinion for vendors on the trains
- Opinion to rolling stock
 - Need air conditioned car, better trains
- Opinion to ticketing operation
 - Need to buy ticket online, please do not round up change, etc.

8. Personal Proposal

- Establish the Service Improvement Committee in MoTC.
- The organizations’ service activities will be reported every month.
- The service improvement results of each organizations will be released to the Website, and also exchanged to the press
- Staffs who aim to improve service will be encouraged to increase motivation.
- The service improvement forum will be held by MoTC each year, and present excellent cases from each organizations. (Open to the media)

Service promotion committee



Service meeting

- Committee takes place once a month.
- Discuss a common theme.
- Attending the meeting is voluntary.



Bulletin board posting

- Minutes will be posted on a wall to share information with others.

Improvement of customer satisfaction



Ver. 2016



Ver. 2015

Attraction of foreign tourists

Route Search



Japan Rail Pass



Limited Express
New reserved seat service



Foreign tourists has been increasing...
Need easy to understand...
Want to use train with peace of mind...

Global Service Information Booklet



Proposal for the MR

- The number of foreign tourists who visit Myanmar have been increasing greatly in recent years.
- Guidance is almost in Burmese.



- Need easy understanding guidance for foreign tourists.
- Need to provide a better environment for foreign tourists.

I hope our research is useful for you.

Service of Civil

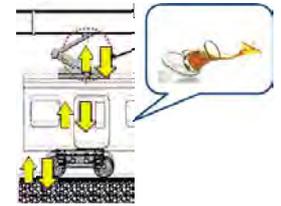
Yangon 17th Naypyidaw 18th. Jan . 2017

Service of Civil

Keep on rail



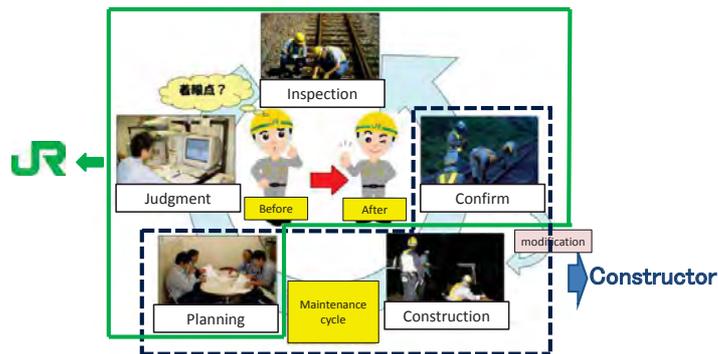
Comfortable boarding



Yangon 17th Naypyidaw 18th. Jan . 2017

Service of Civil

Maintenance Cycle

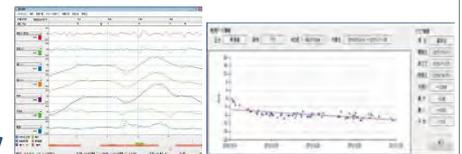


Yangon 17th Naypyidaw 18th. Jan . 2017

Service of Civil

Track condition

Monitoring system



Material condition



Yangon 17th Naypyidaw 18th. Jan . 2017

Signal & Communication section for service

【Signal section】

- The improvement of service quality for technical innovation.

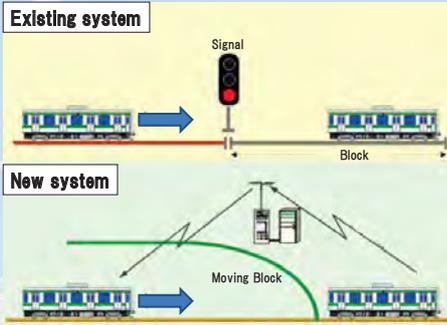
□ Introduce new technology into train system

Decrease failure rate

The number of trains increases

Improve convenience

Improve customer satisfaction



Signal & Communication section for service

【Communication section】

- Providing services using ICT(Information and Communication Technology)

□ Service by smartphone application

Train location monitoring system for customer

Easy to understand train information & Customer can get the want information

Improve customer satisfaction

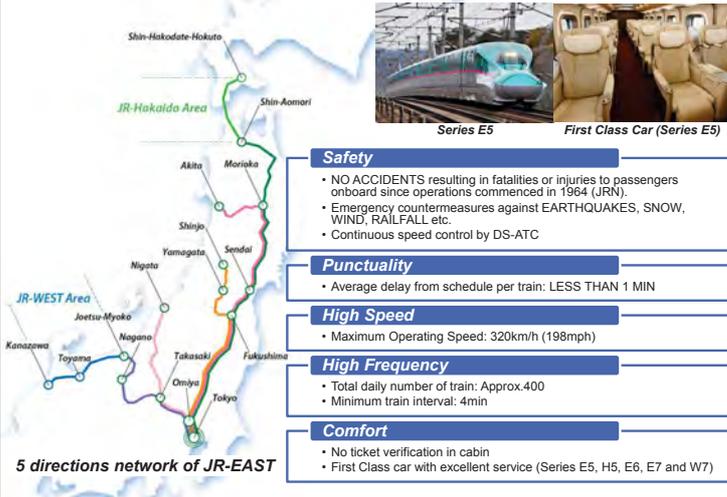


Operation information

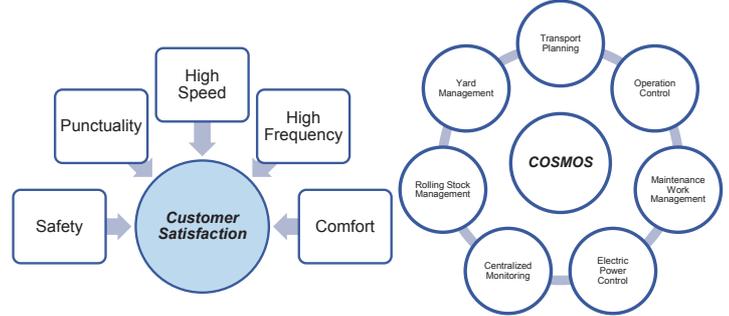
Departure guide

Delay information

OUTLINE AND FEATURES OF SHINKANSEN (JR-EAST)



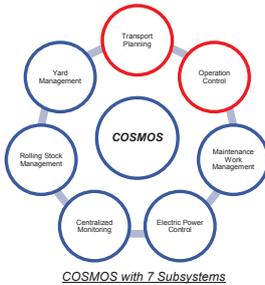
WHAT AND HOW TO MAKE CUSTOMERS SATISFIED?



- Advanced systems (COSMOS) are used to support a range of processes for Shinkansen. 7 Subsystems working effectively and efficiency to operate the Shinkansen.
- COSMOS also assumes a crucial role in *Customer Satisfaction*.

WHAT AND HOW TO MAKE CUSTOMERS SATISFIED?

- *Transport Planning Subsystem* is for preparation of train schedules and enables to accommodate *customer's demand* against the train schedule (timetable).
- *Operation Control Subsystem* controls point machine, signal, automatic announcements in the stations and the generation of the train operation schedule for restoring operation after a traffic failure.



COSMOS with 7 Subsystems



Transport Planning Subsystem

- Shinkansen Transport Dept. members *train regularly* against system troubles to handle the situations quickly and effectively. (*Systems are not always perfect*)

- We prepare *manuals* for dealing with these troubles.

⇒ These will connect indirectly to Customer Satisfaction

4. Media articles

4.1 Myanma Alinn Daily (August 9, 2016)



မူခင်းကျဆင်းရေးလုပ်ငန်းများဆောင်ရွက်ရာတွင် လိုအပ်သောနေရာများ၌ အသုံးပြုရန်အတွက် တစ်မြို့နယ်လျှင် ငွေကျပ်သိန်း ၁၀၀ စီအား သက်ဆိုင်ရာမြို့နယ်အုပ်ချုပ်ရေးမှူး၊ မြို့နယ်ရတပ်ဖွဲ့မှူးနှင့် ရပ်မိရပ်များထံသို့ လုံခြုံရေးနှင့်နယ်စပ်ရေးရာဝန်ကြီးအမှတ် (၂) လုံခြုံရေးရဲကွပ်ကဲမှုအဖွဲ့မှူးနှင့် တိုင်းဒေသကြီးရဲတပ်ဖွဲ့မှူးတို့က ထောက်ပံ့ပေးအပ်ခဲ့သည်။ (အပေါ်ပို)

ရန်မြို့နယ်အသင်း တံခွန်စိုက်ဆုဆွတ်ခူး

ခေါ်ပါတယ်။ ဒီပြင်ပွဲမှာ အပိုင်းကိုးပိုင်းရှိတယ်။ လေးမျိုးပြင်ရတဲ့အတွက် လေးပေါက်တန်းလိုချေပါတယ်”ဟု တိုင်းဒေသကြီးခြင်းလုံးဆပ်ကော်မတီဥက္ကဋ္ဌ ဦးဝင်းတင်က ပြောသည်။ ဆက်လက်၍ မြို့နယ်ပေါင်းစုံ လေးပေါက်တန်း မြန်မာ့ရိုးရာခြင်းလုံးခတ်ပြိုင်ပွဲတွင် အကောင်းဆုံးဆုရ အင်းစိန်မြို့နယ်အသင်းမှ နေလင်းထွန်း၊ တာတိယဆုရ မြောက်ဥက္ကလာပမြို့နယ်အသင်း၊ ဒုတိယဆုရသာကောတမြို့နယ်အသင်းတို့အား တိုင်းဒေသကြီးဝန်ကြီးများက တစ်ဦးချင်းဆုနှင့် ငွေသားဆုများကို လည်းကောင်း၊ ပထမဆုရရှိသွားသော အင်းစိန်မြို့နယ်အသင်းအား တိုင်းဒေသကြီးဝန်ကြီးချုပ် ဦးမြိုးမင်းသိန်းနှင့် အမျိုးသားဒီမိုကရေစီအဖွဲ့ချုပ်နာယက သူရဦးတင်ဦးတို့က တစ်ဦးချင်းဆု၊ ငွေသားဆုများနှင့် တံခွန်စိုက်လေးတို့ကိုလည်းကောင်း၊ ချီးမြှင့်ခဲ့ကြောင်း သိရသည်။ အကောင်း

တာဝန်ထမ်းဆောင်လျက်ရှိပါသည်။ မစ္စတာ ဟိုင်းဒါ ခရမ်း ဒီဇိုင်းအိုလီယုသည် အိမ်ထောင်ရှင်တစ်ဦးဖြစ်ပြီး သားသမီးနှစ်ဦး ရှိပါသည်။ အင်္ဂလိပ်ဘာသာနှင့် အီတလီဘာသာစကားတို့ တတ်ကျွမ်းပါသည်။ (သတင်းစဉ်)

မြန်မာ့မီးရထားခရီးသွားပြည်သူများအား အကောင်းဆုံးဝန်ဆောင်မှုပေးရန်စီစဉ်

ရန်ကုန် ဩဂုတ် ၈ မြန်မာ့မီးရထားအနေဖြင့် ဂျပန် အပြည်ပြည်ဆိုင်ရာ ပူးပေါင်းဆောင်ရွက်မှုအေဂျင်စီ ဂျိတ်ကာ (JICA) ၏ အကူအညီကိုရယူကာ ခရီးသွားပြည်သူများအတွက် စိတ်ကျေနပ်မှုကို အပြည့်အဝပေးနိုင်မည့် အကောင်းဆုံးဝန်ဆောင်မှုစနစ်ကို ထူထောင်သွားမည်ဖြစ်ကြောင်း အောက်မြန်မာပြည် အထွေထွေမန်နေဂျာ ဦးထွန်းအောင်က ပြောသည်။ “ကျွန်တော်တို့ မြန်မာ့မီးရထားအနေနဲ့ ပြည်သူတွေကို အကောင်းဆုံးဝန်ဆောင်မှုပေးနိုင်ဖို့အတွက် ရန်ကုန်ဘူတာကြီးအပါအဝင် ဘူတာငါးခုမှာ စတင်ပြီး အကောင်းဆုံးဝန်ဆောင်မှုအစီအစဉ်တွေ ချမှတ်လုပ်ဆောင်သွားမှာဖြစ်ပါတယ်။ ဒီကနေတစ်ဆင့် တစ်နိုင်ငံလုံးမှာရှိတဲ့ ဘူတာတိုင်းမှာ ဝန်ဆောင်မှုကောင်းတဲ့ဘူတာတွေကို တိုးချဲ့ဆောင်ရွက်သွားမှာဖြစ်ပါတယ်”ဟု ဦးထွန်းအောင်က သိမြဲလမ်းရှိ မြန်မာ့မီးရထား(အောက်မြန်မာပြည်)ရုံး၌ပြုလုပ်သော ဂျိတ်ကာမှတာဝန်ရှိသူများက မြန်မာ့မီးရထားမှ ရုံပိုင်တာဝန်ရှိသူများကို သင်တန်းပေးသည့် အခမ်းအနား၌ ပြောကြားသည်။ ခရီးသွားပြည်သူများအား အကောင်းဆုံးဝန်ဆောင်မှုပေးနိုင်ရန် JICA အနေဖြင့် ရန်ကုန်၊ အင်းစိန်၊ ကညင်းကုန်း၊ မင်္ဂလာဒုံနှင့် ပိဋောက်မြို့ မြန်မာ့မီးရထားဝန်ထမ်းများအား ဩဂုတ် ၈ ရက်နှင့် ၉ ရက်တို့တွင် သင်တန်းများပေးအပ်ခြင်းဖြစ်ကြောင်း၊ ယင်းဘူတာများကို စံပြုအဖြစ်သတ်မှတ်ပြီး တစ်နိုင်ငံလုံး ဘူတာများ ဝန်ဆောင်မှုအကောင်းဆုံးဖြစ်အောင် ပြုပြင်ပြောင်းလဲမှုများ စတင်ပြုလုပ်သွားမည်ဖြစ်ကြောင်း သိရသည်။ မြန်မာ့မီးရထားအား ခေတ်မီဖွံ့ဖြိုးတိုးတက်လာစေရေးအတွက် အခြေခံအဆောက်အအုံများ(မီးရထားဘူတာ၊ သံလမ်းပိုင်း၊ ရထားတံခေါင်းများ) ကောင်းမွန်ရုံမျှမက မီးရထားဝန်ထမ်းအားလုံးကလည်း ခရီးသွားပြည်သူများအား စိတ်ကျေနပ်မှုအပြည့်အဝရရှိစေရန် အကောင်းဆုံးဝန်ဆောင်မှုများဖြည့်ဆည်းပေးရန်လိုအပ်ကြောင်း ဂျိတ်ကာမှ မြန်မာနိုင်ငံဆိုင်ရာ မီးရထားမှူးဝါဒအကြံပေး မစ္စတာ ဝိဆုအိုတီဝါရီက ပြောကြားသည်။ သတင်းမြင်မောင်ဦး ဓာတ်ပုံ-တင်ဦး(မြန်မာ့အလင်း)



မြစ်မီးရောင်စိမံကိန်း တိုးချဲ့ရွာများသို့ ကွင်းဆင်းမိတ်ဆက်

ရိုးမောက် ဩဂုတ် ၈ ကချင်ပြည်နယ် ရိုးမောက်မြို့ ကျေးလက်ဒေသဖွံ့ဖြိုးတိုးတက်ရေး ဦးစီးဌာနမှ ၂၀၁၆-၂၀၁၇ ဘဏ္ဍာရေးနှစ် မြို့နယ်အတွင်းရှိ မြစ်မီးရောင်စိမံကိန်းကျေးရွာကိုရွာ(၁ လှူနှစ်)တိုးချဲ့ဆောင်ရွက်မည်ဖြစ်၍ စီမံကိန်းဆိုင်ရာ အကြောင်းအရာများ မိတ်ဆက်ရှင်းလင်းပွဲများကို ဩဂုတ်လ ပထမပတ်မှစတင်ကာ ကျေးလက်ဒေသ ဖွံ့ဖြိုးတိုးတက်ရေးဦးစီးဌာနမှ တာဝန်ရှိသူများက စာစီရွာဝင်တစ်ရွာထွက် ကွင်းဆင်းဆောင်ရွက်ခဲ့ကြောင်း သိရသည်။ (မြို့နယ် မြန်/ဆတ်)



“First of all GM of lower Myanmar; Mr. Htun Aung Thin said we ; Myanmar railway has coordinated with JICA and has getting supporting from JICA to get a good customer service and customer satisfaction.

At the workshop which is supported by JICA to Myanmar Railway’s staff to give and apply a good customer service Mr. Htun Aung Thin said that “our Myanmar Railway including Yangon station and other 5 stations will start that plan and then the rest stations will be used this plan station by station”.

To support a good customer service to the public JICA give the training at 8th and 9th August, 2016 and in this training Myanmar railway staff from Yangon station, Insein, Danyingone, Mingalardone and Pago station come and attend. After that all stations of Myanmar will be improved and promoted.

Mr. Mitsuo Higashi who is advisor of Policy of Myanmar Railway from JICA said that to get the international standard and improvement of Myanmar Railway not only changing the basic foundation such as track, locomotive, station but also giving a better customer service and customer satisfaction.”

4.2 The Standard Time Daily (October 12, 2016)

The Standard Time Daily
ရထားစီးခရီးသည်များ၏သဘောထားမှတ်ချက် စစ်တမ်းကောက်ယူ

နန်းတိုင်း ရန်ကုန်၊ အောက်တိုဘာ-၁၁
 ဝန်ဆောင်မှုကဏ္ဍ အဆင့်မြှင့်တင်ရေးလုပ်ငန်းများ ဆောင်ရွက်ရန် ခရီးသည်များ၏ သဘောထားမှတ်ချက် စစ်တမ်းကို ရန်ကုန်ဘူတာကြီး၌ အောက်တိုဘာ ၁၁ရက်က ကောက်ခံခဲ့သည်။ အဆိုပါစစ်တမ်းကို JICA နှင့် ပူးပေါင်းကာ ကောက်ခံခဲ့ခြင်းဖြစ်သည်။ (ယာပုံ)



သဘောထား
 အဆိုပါလုပ်ငန်းများ လုပ်ဆောင်ရန်အတွက် ဩဂုတ်လမှစတင်ကာ ခရီးသည်များနှင့် အနီးကပ်ထိတွေ့မှုရှိသည့် ဝန်ထမ်း ၄၀ ကို ဝန်ဆောင်မှုမြှင့်တင်ရေးသင်တန်းများ ပို့ချခဲ့ပြီးနောက် လက်ရှိတွင် ခရီးသည်များ၏ သဘောထားမှတ်ချက်ကို သိရှိလိုသောကြောင့် စစ်တမ်းကောက်ယူခြင်းဖြစ်ကြောင်း မြန်မာ့မီးရထား (အောက်မြန်မာပြည်) ရုံးမှ အထွေထွေ မန်နေဂျာ ဦးထွန်းအောင်သင်းက ပြောဆိုသည်။

အင်တာဗျူး
 'ကျွန်တော်တို့လုပ်ငန်းက ပြည်သူ

ကို ဝန်ဆောင်မှုပေးတဲ့လုပ်ငန်း၊ ပြည်သူလူထုကို စိတ်ကျေနပ်၊ အဆင်ပြေအောင် ဆောင်ရွက်ပေးရတဲ့ လုပ်ငန်းဖြစ်တဲ့ အတွက် သင်တန်းတက်ရောက်ထားတဲ့ ဝန်ထမ်းတွေ ပြည်သူနဲ့ ပြန်ဆက်ဆံတဲ့

အခါမှာ ဘယ်လောက်အထိ ထိရောက်မှု ရှိလဲဆိုတာ ခရီးသွားပြည်သူရဲ့ သဘောထားကို သိချင်တဲ့အတွက် ဘူတာတိုင်းမှာ အင်တာဗျူးလုပ်ရခြင်းဖြစ်ပါတယ်' ဟု ၎င်းက ပြောဆိုသည်။

အဆင့်မြှင့်တင်
 ကောက်ယူရရှိသည့် ရလဒ်များကို ကြည့်၍ လိုအပ်ချက်ရှိသော ဝန်ဆောင်မှုကဏ္ဍများကို အဆင့်မြှင့်တင်ပေးသွားမည်ဟု ၎င်းက ပြောဆိုသည်။

“Interview for railway customers”
 MR and JICA together had a customer interview in Yangon Station to improve service
 Lower Myanmar GM said “We are service occupation for the people. We have held service training to 40 employees since August. And this interview should be a benchmark for what we could do”
 “Taking results of the interview, we intend to realize service improvement”

မြန်မာ့မီးရထားလုပ်ငန်းများ၏ စီမံခန့်ခွဲရေးနည်းလမ်းများဆောင်ရွက်နိုင်ရန် စစ်တမ်းကောက်ခံခြင်းနှင့်ပတ်သက်ပြီး သတင်းစာရှင်းလင်း



မြန်မာ့မီးရထားလုပ်ငန်းများ၏ စီမံခန့်ခွဲရေးနည်းလမ်းများဆောင်ရွက်နိုင်ရန် စစ်တမ်းကောက်ခံနေစဉ်။ စတင်ပုံ-အေးဇွမ်းကိုကို

ရန်ကုန်၊ အောက်တိုဘာ ၁၁-ခရီးသွားပြည်သူများ၏ ဆန္ဒသဘောထားတောင်းခံကာ မြန်မာ့မီးရထားလုပ်ငန်းများ၏ စီမံခန့်ခွဲရေးနည်းလမ်းများကို ဆောင်ရွက်နိုင်ရန် အောက်တိုဘာ ၈ ရက်မှစတင်ကာ စစ်တမ်းကောက်ခံလျက်ရှိကြောင်း မြန်မာ့မီးရထားလုပ်ငန်းမှ သိရသည်။ စစ်တမ်းကောက်ခံခြင်းကို မြန်မာ့မီးရထားလုပ်ငန်းနှင့် ဂျပန်နိုင်ငံ JICA အဖွဲ့အစည်းတို့ ပူးပေါင်းဆောင်ရွက်ခြင်းဖြစ်ကြောင်း သိရသည်။

မြန်မာ့မီးရထားလုပ်ငန်းအောက် မြန်မာပြည်အထွေထွေမန်နေဂျာဦးထွန်းအောင်သင်းက “စီမံခန့်ခွဲမှုလုပ်ငန်းတွေကို ဆောင်ရွက်နိုင်ဖို့အတွက် ပြည်သူ့ရဲ့ ဆန္ဒသဘောထားကို တောင်းခံပြီး တော့လုပ်မှာပါ ဒီအပြင် ဘာတွေ ဝန်ဆောင်မှုပေးစေချင်လဲ၊ ဘာတွေအခက်အခဲရှိလဲ စသည်အားဖြင့် အချက်ပေါင်းများစွာပုံစံလေးတွေ နဲ့ရယူပြီး အကောင်းဆုံးသောနည်းလမ်းတွေကိုရှာဖွေပြီး ဆောင်ရွက်ပေးသွားမှာပါ” ဟု အောက်တိုဘာ ၁၁ ရက်က ရန်ကုန်ဘူတာကြီးတွင်ပြုလုပ်သည့် သတင်းစာရှင်းလင်းပွဲတွင် ပြောသည်။

ရထားများသွားလာရာတွင် ပလက်ဖောင်းများ မကောင်းခြင်း၊ သန့်စင်ခန်းများ၊ ရေရရှိမှုအဆောက်အအုံများအပါအဝင် လက်မှတ်ဝယ်ယူရာတွင် ခက်ခဲမှုရှိခြင်း၊ ရထားအ

ချိန်မမှန်ခြင်းစသည့်အချက်များအား ခရီးသွားပြည်သူများတောင်းခံလျက်ရှိကြောင်းသိရသည်။

“စီမံခန့်ခွဲရေးနည်းလမ်းတွေကို ဆောင်ရွက်နိုင်ဖို့အတွက် JICA ကဦးဆောင်ပြီး ကျွန်တော်တို့အပါအဝင် တိုင်းအရာရှိတွေ၊ ဝန်ထမ်းတွေနဲ့ ဆောင်ရွက်တာဖြစ်ပါတယ်။ ကိုယ့်ဝန်ထမ်းတွေ ဘယ်လောက်အထိ ပြည်သူတွေအပေါ်မှာ စီမံခန့်ခွဲနိုင်ပြီလဲ၊ ဝန်ဆောင်မှုတွေပေးနိုင်ပြီလဲ ဆိုတာကို ရထားစီးခရီးသည်တွေ ဆီကနေ ကျွန်တော်တို့ဝန်ဆောင်မှုတွေရဲ့ သုံးသပ်ချက်ကို ပြန်လည်စစ်တမ်းကောက်တာပါ” ဟု ၎င်းက ဆက်လက်ပြောသည်။

ရထားဝန်ထမ်းတွေမေးလို့ ဖြေပေးတာပါ။ ရထားဘူတာတွေအပေါ်မှာ ဘယ်လိုမြင်လဲ၊ ဝန်ထမ်းတွေရဲ့ ဆက်ဆံရေး၊ လက်မှတ်ရောင်းတာ၊ လက်မှတ်တွေစစ်တာ ကျေနပ်လား၊ မကျေနပ်ဘူးလား၊ သူတို့တွေဘက်က ဘယ်လိုမျိုးတွေပြုပြင်ပြောင်းလဲဖို့လိုမလဲ အဲ့ဒါတွေမေးတာပါ။ မြို့ပတ်ရထားလက်မှတ် ဝယ်ရတာတော့ အဆင်ပြေပါတယ်။ နယ်ဘက်ကို သွားတဲ့လက်မှတ်တွေ ဝယ်ရတာခက်တယ်။ နောက်ပြီး အချိန်တွေမမှန်ဘူး၊ သန့်စင်ခန်းကောင်းကောင်းလေး ထားပေးစေချင်တယ်လို့ အစီအစဉ်ကတော့ ပြောခဲ့တယ်” ဟု ပြောသည်။

ACKK

DEMOCRACY today 10/12

“Research for better management of MR”
 MR and JICA together are now researching for customer oriented management
 GM said “We are trying to hear customers’ voice to better management. For that purpose, JICA, division managers, and employees are working together”
 A Customer said “I hope that purchasing tickets for long distance trains, accuracy of timetables, and restrooms will improve”