

Perspective for particular emphasis 1: Improve human resource development and systems

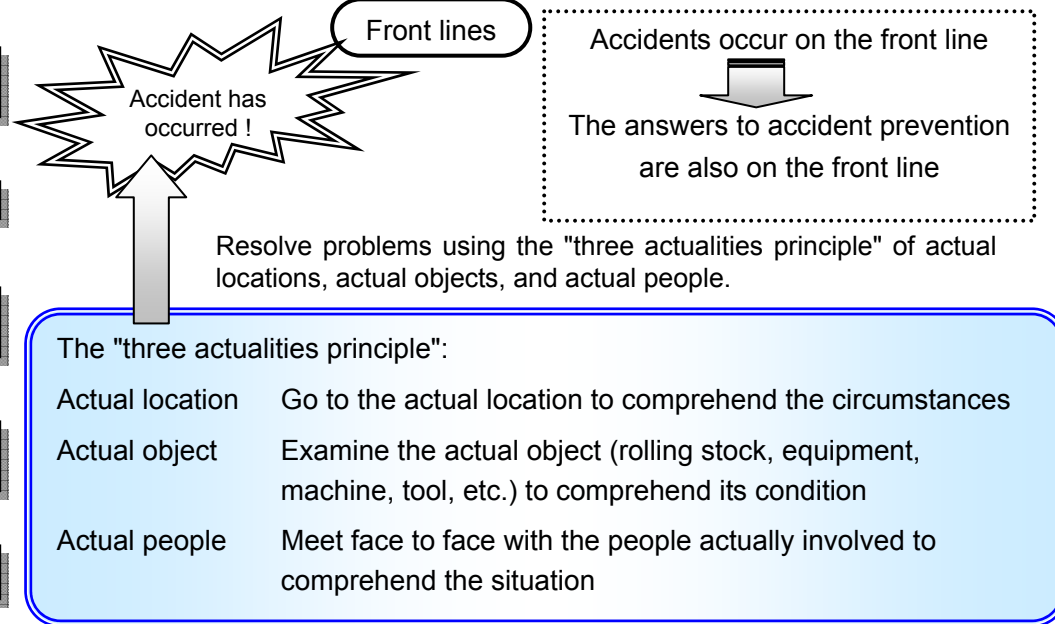
<Objectives> Accidents involving passenger injuries or fatalities  
 Accidents involving employee (including Group companies and partner companies) fatalities ⇒ 0

### Creating a culture of safety

#### 1. "Five cultures" are the base of an overall culture of safety

- The culture of proper reporting  
Proper reporting makes it possible to correctly analyze accidents and incidents.
- The culture of noticing  
Noticing accidents at incipient stages is the basis for prevention.
- The culture of direct confrontation and debate  
Directly and thoroughly confronting each other's views is necessary for determining causes.
- The culture of learning  
Making use of lessons learned is the basis for preventing the recurrence of accidents.
- The culture of action  
Taking action is what makes it possible to maintain safety.

#### 2. The "three actualities principle" is established as the standard for action in the JR East Group



#### 3. Return to the basic ideas of the Challenge Safety Campaign

About the Challenge Safety Campaign

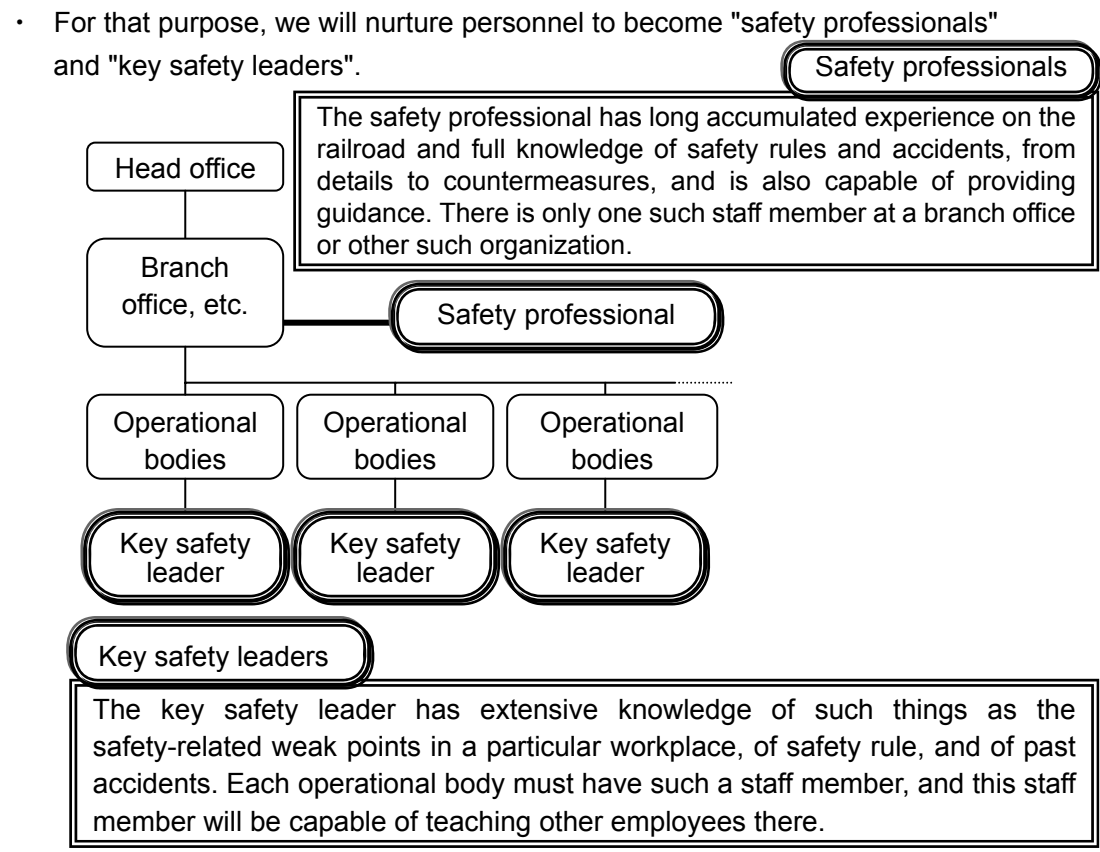
With the participation of all employees on the front lines, this campaign seeks to encourage employees to think about safety, argue about it, act on it, and feel satisfaction in achieving it, and by those means to refine their safety consciousness and sensitivity and channel them into further movements for safety. This campaign has been underway since 1988.

The conceptual approach of the Challenge Safety Campaign

- Individual employees uncover safety issues and think about how to handle them.
- Employees all join in debate on what they should do and formulate objectives that can be realized.
- In order to realize an objective that everyone has thought up together, they all take their own actions on an ongoing day-to-day basis. (Managers will lead the campaign so that front-line employees can gain a sense of accomplishment, and the planning divisions will respond promptly to expressions of front-line views.)

### Rebuilding the safety management system

#### 1. We will nurture our people and pass on our safety-related knowledge, technology, and expertise.



#### 2. We will engage in efforts to pass on knowledge of safety and related matters.

- Expansion of the Accident History Exhibition Hall  
Rolling stock from accidents will be displayed and facilities for experiential learning will be made available. Visits to this Exhibition Hall will make it possible to learn about past accidents as well as to gain a direct experience of human error.
- Creation of new educational materials  
We will compile a "Technical History of Safety (An Illustrated Scroll)" and a "Serious Accident Dictionary."
- Organization of chroniclers (narrators of oral history)  
Accomplished employees who have a wealth of knowledge about safety as well as the ability to apply it will be organized as chroniclers (narrators of oral history) of safety, and we will see that this knowledge is passed on to the next generation.

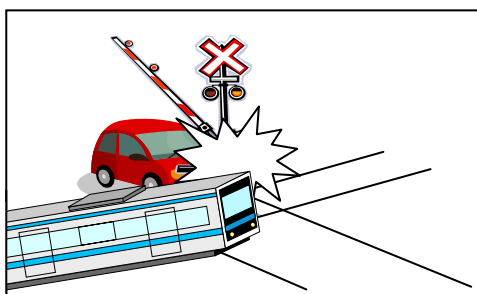
#### 3. The Group will join together as one in measures to upgrade safety.

- JR East operations conducted by Group companies and partner companies are increasing, and the Group as a whole is being required to provide unified safety improvements. We will therefore engage as a Group in the following measures:
  - We will support the safety divisions of the various Group companies by conducting personnel exchanges and other such measures.
  - We will set up arrangements for the speedy improvement of equipment and facilities, and we will set up working schedules that assure reasonable working hours.
  - Group companies and partner companies will also nurture employees under the "key safety leader" concept, and they will concentrate on human resource development.
  - We will undertake stringent measures to eradicate the three main industrial accidents, which are accidents involving contact with rolling stock, electrocution, and falls.

## Taking sure steps to reduce risks



### 1. We will identify and evaluate new risks.

The conceptual approach to countermeasures to date



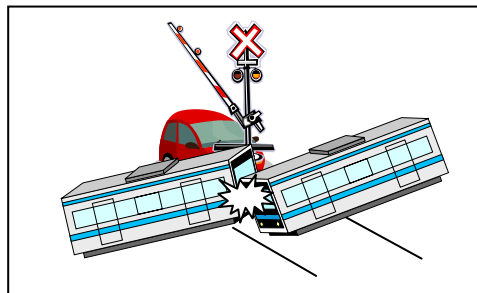
Accident example: Train and automobile collision in crossing

- Countermeasures consisting primarily of **preventing recurrence**
- Countermeasures for vehicles stalled within train crossings
  - Train crossing obstacle detectors
- Countermeasures to prevent attempts to cross tracks immediately before a train passes
  - Larger diameter barrier arms
  - Crossing warning devices placed in higher positions
  - Zero Accidents at Rail Crossings Campaign

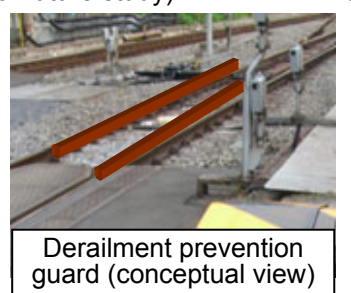
---

Conceptual approach of new countermeasures



Hypothetical example: Oncoming train collides with derailed train

- Countermeasures consisting primarily of **preventing accidents in advance**
- Countermeasures for prevention of secondary damage
  - Derailed prevention guard
- Countermeasures to prevent attempts to cross tracks immediately before a train passes through
  - New countermeasures to prevent attempts to cross tracks immediately before a train passes through (For future study)



### 2. We will promote countermeasures that have the highest priority.

#### Risk evaluation

We will conduct risk evaluation to prevent accidents before occurrence, as in the example of the railway crossing accident.

#### Specific measures

We will use the results from risk analysis to promote undertaking of countermeasures in the order of assigned priority. The principal countermeasures will include those like the following:

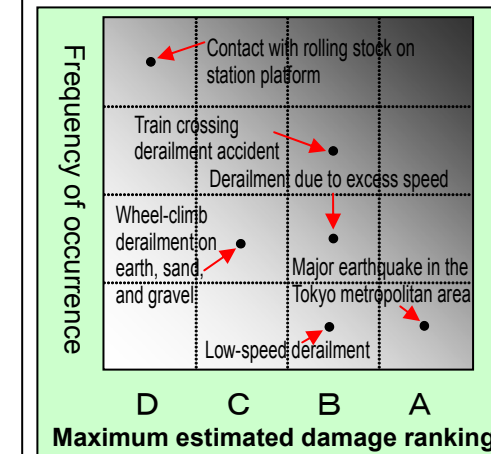
- **Countermeasures for a major earthquake in the Tokyo metropolitan area**  
Early earthquake detection, stopping trains, seismic resistance countermeasures etc.
- **Countermeasures for railway crossing accidents**  
Countermeasures for attempts to cross tracks immediately before a train passes through and for secondary damage, expanded installation of train crossing obstacle detectors (other than in the Tokyo metropolitan area) etc.
- **Countermeasures against excessive speeding and mistaken issuance of instructions from Control**  
ATS deployment, train radio deployment etc.
- **Countermeasures against derailment at low speeds**  
Improve test tracks to uncover the mechanisms of derailment etc.
- **Station platform countermeasures**  
Install automatic platform gates, upgrade installation of emergency train-stopping systems etc.

### 3. We will further continue countermeasures against major accidents.

#### Specific measures

- **Countermeasures for the Uetsu Line accident**  
Expand the installation of anemometers, add sections subject to high wind restrictions, install windbreak fences, study methods for using weather information to restrict operations, conduct research and development related to tracking wind gust conditions, etc.
- **Countermeasures for the Fukuchiyama Line derailment accident**  
Improvement of ATS as countermeasure to prevent excess speeds, introduction of radio to automatically transmit train protection signals, complete deployment of emergency brakes (EB) etc.

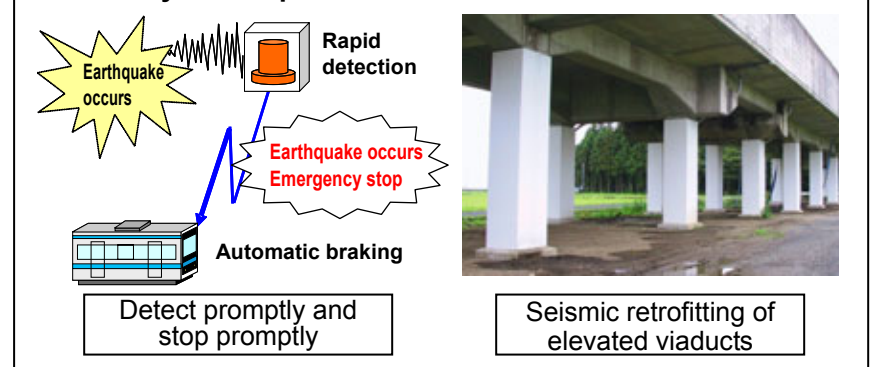
#### Risk evaluation



#### <Maximum estimated damage ranking>

- A: Great Hanshin-Awaji Earthquake, major earthquake (envisioned) in the Tokyo metropolitan area, etc.
- B: Tsurumi, Mikawajima, Fukuchiyama Line derailment accidents, etc.
- C: Shigaraki Highlands Railway accident, etc.
- D: Contact with rolling stock on train platform, etc.

#### Conceptual view of countermeasures for a major earthquake in the Tokyo metropolitan area



- **Countermeasures for the Joetsu Shinkansen derailment accident**  
L-shaped car guides, rail rollover prevention countermeasures, seismic retrofitting of elevated viaducts, etc.  
Note: Seismic retrofitting of elevated viaducts and so on has been underway since before the Niigata Chuetsu Earthquake occurred.

## Promoting priority improvement plans for safety equipment

Safety-related investment under the "2013 Safety Vision" plan is expected to be approximately 750 billion yen over the 5-year period.

Note: JR East has sustained safety-related investment in amounts totaling approximately 2.2 trillion yen over the 20 years since the company was established.