For JR East Group, securing safety and having passengers use our trains with peace of mind are our top priorities. We have thus proceeded with step-by-step safety measures up to today with a spirit of activities being autonomous and self-sustained.

It has been 22 years since JR East was established. Throughout that period, we have made efforts to improve safety through both physical and human approaches, aiming for the ultimate level of safety. Those actions include safety-related investment in four implementations of five-year safety plans (totaling approx. 2.2 trillion yen since the formation of the company, more than 40% of total capital investment), implementation of the “Challenge Safety Campaign” and enhancement of safety-related sections such as the Safety Research Laboratory and Safety Offices (present Transport Safety Offices) of each branch.

However, in October 2004, the first derailment of a Shinkansen train in commercial service occurred due to the Mid Niigata Prefecture Earthquake. And, at the end of 2005, five passengers died and many others were injured in a derailment accident on the Uetsu main line. Those and other accidents show that we still have many issues to overcome.

In light of such circumstances, we started on April 1 of this year “2013 Safety Vision”, a new safety vision with a goal of “no accidents involving injuries or fatalities of passengers and no accidents involving fatalities of employees (including employees of group companies and partner companies)”. I will introduce that vision in this article.
We see, hear and feel ourselves things that especially need attention, instead of making decisions from the desk just by reading a report. This promotes valuing worksite information (original information), as accidents occur in the field and the answer too exists in the field. We will also foster the sense of unity with and consideration of the worksite where our colleagues make daily efforts to prevent accidents. We are thus going to set the three actualities principle as the code of practice of JR East Group.

3) Challenge Safety Campaign Renaissance

As a pillar of safety, it is important to ensure “safety actions” by individual employees rather than just taking physical measures such as implementing ATS. And ensuring safety actions are carried out depends on “safety awareness” of each employee. Thus, JR East has been conducting the “Challenge Safety Campaign” since 1988 as an effort to brush up consciousness of safety.

The concept of that campaign is as follows.

- An individual employee uncovers safety issues and thinks about how to handle them.
- Employees all discuss what they should do, and formulate objectives that can be achieved.
- In order to achieve the objectives that they have thought about together, they all take their own actions, continuing on a day-to-day basis.

Under the above concept, we have continued that campaign with the keywords of “achievement and self-fulfillment” for more than 20 years, aiming to enhance safety consciousness of employees while motivating and interesting them.

However, in spite of such a long campaign, a survey of employees on safety last year revealed that the campaign did not contribute to improvement of safe actions of employees. In the 2013 Safety Vision, we are thus getting back to the basic ideas of the Challenge Safety Campaign and revitalizing those in a variety of ways. We call it the “Challenge Safety Campaign Renaissance”.

The key of that effort is how to give a sense of achievement to employees. We are therefore addressing creation of the value of “prompt response” (to respond promptly to views of front-line employees). As an example, we are taking the approach of promptly responding to proposals on safety improvement from front-line employees, carrying out those proposals and giving a sense of achievement to employees with the “Challenge Safety Campaign revitalizing support budget” (a budget of individual branch offices only for use in the campaign). We will further create a system for complimenting and for across-the-board implementation.

We expect that such efforts could motivate and interest front-line employees on safety and ensure safe actions.
3.2 Rebuilding a Safety Management System

1) Fostering Human Resources with Knowledge and Skill in Safety
As the generational change of employees is rapidly proceeding, it is becoming more and more important to foster key employees who have knowledge, skill and leadership in safety. Thus, we will nurture and maintain personnel as “key safety leaders” in each field who have extensive knowledge in subjects such as safety-related weak points in a particular workplace, safety rules, and past accidents.

Furthermore, we will thoroughly foster personnel as “safety professionals”. Those are personnel who have long-accumulated experience on railroads and have sufficient knowledge of safety rules and past accidents from details to countermeasures, and who are also capable of providing guidance.

2) Succession of Knowledge and Skill in Safety
For employees to think and act independently, it is important that they learn about past railway accidents and development of countermeasures against those. We are thus making efforts to pass on a range of knowledge and experience.

As one of those efforts, we will organize accomplished past employees as chroniclers (narrators of oral history) of safety. Such people have played important roles in accident prevention in their fields and have a wealth of knowledge about safety as well as the ability to apply it. Their knowledge and experience must be passed on to the next generation.

We are also planning to expand the Accident History Exhibition Hall of the General Education Center in Shin-Shirakawa. It will be equipped with facilities for experimental learning and otherwise allow all employees to learn about accidents and safety.

Other efforts include creation of new educational materials, such as “Technical History of Safety (an illustrated scroll)” that simply summarizes the history of developing safety-related systems and “Serious Accidents Dictionary” that is a collection of actual accidents in each field. In this way, we will pass on knowledge of safety.

3) Importance of the Safety Level of JR East Group and Thorough Countermeasures for Three Major Types of Industrial Accidents
As outsourcing of work is increasing, JR East Group as a whole must work on safety improvements. We will support the safety divisions of the various group companies by conducting personnel exchanges and other such measures. We will also set up arrangements for the speedy improvement of equipment and working schedules that assure reasonable work time (working intervals). Group companies and partner companies will also nurture employees under the “key safety leader” concept and otherwise concentrate on human resource development.

We will work to appropriately apply rules for preventing industrial accidents. And we will undertake stringent measures against the three main industrial accidents—accidents involving contact with rolling stock, electrocution and falls.

3.3 Taking Sure Steps to Reduce Risk

The past countermeasures against serious accidents consisted primarily of preventing recurrence of the accidents and incidents. While we will continue such efforts, it will be necessary to take actions against incidents that occur infrequently and are underrated because those unfortunately did not lead to serious damage. For instance, there have been some incidents since the formation of JR where trains derailed and interfered with the oncoming tracks, but those have not caused serious accidents. Still, such incidents are thought to bear risk of where they could have lead to serious circumstances if an oncoming train had come.

Thus, we will conduct risk evaluation of past incidents, including those that only had small damage, based on the frequency of occurrence and the possible worst damage. Then, we will use the results to promote undertaking of preventive countermeasures, starting with incidents of highest priority, to improve safety.

3.4 Promoting Active Installation of Safety Facilities

We will implement priority deployment plans for safety equipment in both physical and human terms mainly for incidents with high priority identified in the above-mentioned risk evaluation. Safety-related investment under the “2013 Safety Vision” plan is expected to be approx. 750 billion yen over the five-year period. This investment covers the following.

1) Prevention of Train Collisions
Under the companywide initiative to deploy ATS with a continuous speed check function (ATS-P/Ps) to prevent train collisions, we are proceeding with installation of that system.

We are continuing to deploy ATS-P in the greater Tokyo area, and it had been deployed on 1,942.6 km of track (approx. 26% of JR East track) at the end of fiscal 2008. For line sections outside of the greater Tokyo area, we developed ATS-Ps that also has a continuous speed check function. We have deployed that to 227.7 km of track and 11 stations mainly in the Sendai area and the Niigata area, and will continue deployment into the future. As countermeasures for accidents like the Fukuchiyama line derailment accident, we are making efforts to equip check ground coils to curved sections, turnouts, ends of rails and sections with downward gradients.

2) Prevention of Level Crossing Accidents
In order to prevent level crossing accidents, we are expanding installation of level crossing obstacle detectors. Additionally, we are studying the development and installation of a more visible new barrier arm to reduce attempts to cross tracks immediately before a train passes, which we have found difficult to reduce.

Future countermeasures for prevention of secondary damage in accidents at crossings include studying the addition of guards to prevent deviation at the crossing. We will continue with those and other efforts to prevent railway crossing accidents.
3) Natural Disasters Countermeasures
Taking into account the possibility of a major earthquake occurring in the greater Tokyo area, we will start new studies on early detection of earthquakes and emergency train stopping for conventional lines. We are also planning to proceed with seismic protection by line sections. Based on the lessons of Great Hanshin-Awaji Earthquake, we are pushing up the existing seismic protection plan of seismic reinforcement of structures such as elevated viaducts. Particularly, we have already completed planned reinforcement both for Shinkansen and conventional lines for columns susceptible to shear failure ahead of bending failure. We will also conduct reinforcement to columns susceptible to bending failure ahead of shear failure with lower seismic resistance. Based on the lessons of the Mid Niigata Prefecture Earthquake in 2004, we are also proceeding with seismic improvement of rolling stock and tracks of Shinkansen.

In order to prevent accidents by high wind, we are adding new sections subject to high wind restrictions. Furthermore, we will install more windbreak fences and expand introduction of the strong wind warning system that has proven effective on the Keiyo and other lines. As a countermeasure against gusts, we have installed a Doppler radar to Amarume station on the Uetsu Main Line and are using that to study detection of gusts and tornados.

4) Prevention of Accidents at the Station Platform
One of the remaining issues is prevention of railway injury accidents at the station platform. In order to prevent those, we are taking physical measures by upgrading equipment such as installation of emergency train stop warning systems. We have also started studying installation of automatic platform gates. Those will be introduced to Ebisu and Meguro stations on the Yamanote line in fiscal 2010 in advance of other stations. We plan to equip all stations on the Yamanote line by around fiscal 2017 by installing at occasions such as large-scale station improvement work.

5) Prevention of Flange Climb Derailment at Low Speeds
Despite past countermeasures against flange climb derailment at low speed in sharp curves, such as countermeasures developed based on lessons of the Tokyo Metro Hibiya line derailment accident, flange climb derailment still occurs. Derailment of running trains is an important risk since that might lead to a collision if the derailed train interferes with the adjacent track. Thus, in order to clarify the mechanism of derailments and develop effective countermeasures, we will consider constructing an experiment line as soon as possible. On that new experiment line, we will also carry out work such as research on survival factors.

Safety is never complete. It is created by constantly applying human wisdom and effort.

Fiscal 2009 is the first year of the 2013 Safety Vision. Under that vision, front-line departments, branches, the head office and group companies will work as one, making further specific efforts in pursuit of our common goal of safety.