

International Railway Safety Conference 2011

17 -19 October 2011, Melbourne, Australia

**Aftermath of the 2011 Great Eastern Japan Earthquake and
Fukushima Daiichi Nuclear Power Plant that Destroyed Railways**

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1. My Story of the Earthquake Disaster and Devastating Tsunami

The great earthquake occurred at 14:46 JST on Friday, March 11. A magnitude of 9.0 great earthquake and the devastating tsunami along the Pacific coast severely damaged eastern Japan.

My job is to run a train. And when this earthquake occurred, I was on duty just arriving at Shinchi station on Jouban line. I think it was about the same time: the earthquake hit and an “emergency-stop” was instructed via an automated crew’s radio. Meanwhile the train gradually swayed from side to side and overhead wire swung recklessly. It was such a big and long shake that I was afraid the train was pushed over to the side. I was very scared as I was holding on to the handle until the shake stopped. When it stopped, I stepped out to the platform and checked the area for any damage. The platform had some bumps and bathroom was actually tilted.

There were then about 40 passengers on the train, and fortunately a police officer was one of them. The officer guided the passengers out of the train and safely led them to the town hall.

In the meantime, I lowered the pantographs and stopped the battery because the power went off. Two conductors and I stayed on the train, thinking “what are we going to do?” We were filled with fear of uncertainty. A few minutes later, one of the conductors screamed “Tsunami is coming!” so I looked at a direction toward the sea, and saw the water coming toward us through the houses along the coastline. We felt immediate danger and run up to the overpass. The water was rapidly and steadily reaching toward us. It was when the water went over the platform and reached the train’s rooftop; the train was lifted and swept away. Also, the station building and nearby houses were all washed away. I was totally scared and simply could not believe what I was seeing. It was such a horrible

sight! If the overpass were knocked down, the water could surely have taken our lives instantly. Fortunately, the overpass survived and we were also saved. We got saved because the train actually floated on the water and washed away instead of sinking in, wrapping around the overpass, and knocking it down. And the reason for the train floating was because the doors were shut so no water came inside.

2. Lesson Learned from this Experience (Escape Death by the Skin of My Teeth)

(1) Problems of communication system in times of emergency

What I learned from this experience is that the risk management manual was no use in times of actual disaster. When the earthquake occurred, I received the automated order for emergency-stop but did not receive any other information or instruction after that. The emergency cell phone was not connected, either. Moreover, the manual listed only a part of Joban line, which serves the long coastline.

According to the manual, we are supposed to wait for a next “order” via railway radiophone when we first receive the order for “emergency stop” in times of major earthquakes. But the radiophone was disconnected this time. The manual was never created for such a communication failure in mind. This incident alone shows how comprehensive views of the manual and safety curriculum need to be reexamined.

(2) The limit of safety management and its manual

We are trained how to lead our passengers to safety in times of emergency, but are never taught to protect our own lives. We are taught that our duty is to watch the train, but we do not know when we are allowed to stop watching the train and run for our own safety. We learned about the Tsunami warning from the police officer, but it still did not mean “to us” that we could leave the train. If we had received the order to take refuge together with our passengers, we never had to face the tsunami so close. Looking back on that day, if the police officer was not on the train to guide our passengers, I do not even want to think what could have happened then.

The crews and passengers on the train had no way of knowing if the earthquake was a magnitude 5 or 7. We had no idea whether or not the tsunami was coming toward us. Therefore, a system that can tell us such information should be in place as soon as possible.

The company designated “tsunami restricted zones”, but evacuation points were not listed. We are only trained to take everybody up to a hill top. Like this time, however, there are many places including Shinchi station where no hilltops to go to. The reality is

that no action has been taken to fix this inconsistency. And according to this manual, the “major” tsunami meant waves over 3m and it never thought about the waves over 10m. In fact, major waves crashed some evacuation points; therefore, we also need to reexamine those listed evacuation points.

3. Closed Work Place Due to Fukushima Daiichi Nuclear Power Plant

A hydrogen explosion at the Fukushima Daiichi Nuclear Power Plant since the earthquake forced 96 workers (out of 113 workers at my work place) to evacuate from Haranomachi drivers’ office. The mandatory exclusion zone was set up for 20km around the Fukushima Daiichi Nuclear Power Plant and the emergency evacuation-prep zone was set up for 30km around the crippled plant. Haranomachi drivers’ office is located within the 30km zone and it is now closed because there is no job. Not only the earthquake and tsunami but also the accident at the nuclear power plant took away our basic ways of life.

The Company called up our union members on cell phone asking “Where do you want to work since you cannot go back to your old work place?” “Are you up for taking a different kind of job?” We never got a chance to see our fellow workers to discuss this. We did not get any assistance for moving either, and we were very worried and panicked about the future. How could we answer to such questions without any hope or plan for the recovery and reconstruction? Of course, the Company was taking action based on the government policy but we cannot believe that Tokyo Electric Company (TEPCO) and the government were telling us the truth in the first place.

I left my wife and kids in the 30km zone and moved alone to Mito area where I can actually work. If the damage was from earthquakes and tsunami alone, we can face the recovery. But this accident at the nuclear power plant does not seem to see its end. Our union members who have houses in 20km zone cannot even go back home. What should we do about our family tombs and property?

At last, our union members are all worried about whether or not we can get back to normal life in near future. The biggest assignment for railway workers is its safety. Japan’s earthquake and tsunami disaster is the event way beyond our normal sense. And the accident at the nuclear plant is also a experience which we have never experienced before. But we can no longer call it unpredictable. Education and manual alone have its limit. Therefore, we must teach our fellow railway workers how to But we all appreciate your encouragement and promise that we will continue working toward the reestablishment of railways. And that’s my report. Thank you so much for listening.

4. Fukushima Daiichi Nuclear Power Plant which Shook the World with the Fear of Radioactivity

Mr. Harada has just reported his life-or-death experience of the earthquake and tsunami, and how he is still suffering from the consequences of the accident at the nuclear power plant. Now I would like to turn your attention to how we should face the accident at the nuclear power plant, where the cold shutdown the government and TEPCO hope for is probably not going to happen in anytime soon.

Tsunami and the earthquake destroyed emergency generators at Fukushima Daiichi Nuclear Power Plant and the reactor was unable to cool the nuclear fuel. There were explosions in the reactor building at unit 1 and unit 3, releasing a large amount of radioactive material to outside. Then there were another explosion at unit 2 and the fire at unit 4, which caused heating of spent fuel, resulted in meltdown at units 1, 2, and 3.

The Japanese government admitted that this accident at Fukushima Daiichi Nuclear Power Plant was as worse as Chernobyl Nuclear Power Plant catastrophe in 1986 and judged this disaster a level 7 on the International Nuclear Event Scale. Even today, a large amount of radioactive materials are carried in all direction by the wind and through the rain. The water highly contaminated with radiation also is gushed out to the ocean, and all that continues to destroy the earth environment and threaten human life. Furthermore, agriculture, stock rising, and inshore fisheries are all damaged by the polluted land and water. Residents around the crippled plant lost ways of earning their daily bread.

The workers at the front line to control the national crisis, at high risk of exposure and long term health impacts, are the weak working class of TEPCO's contract, sub-contract, and day laborers...and Fukushima Nuclear Power Plant is a place still dangerous.

Moreover, we have not found the path to nuclear decommissioning or the way to extract nuclear fuel of those 3 units which had a meltdown. For the years to come there is no knowing of what will happen next.

Japan is the only country, which has been atom-bombed in Hiroshima and Nagasaki during the World War II. It is ironic that Japan, the very same country, is now once again exposed to radiation as a result of nuclear disaster caused by the earthquake and tsunami. In order for us not to repeat the same mistake, not only Japan but also the world must seriously face this issue.

Japan owns 54 nuclear power plants, and takes 3rd place as a nuclear plant-owning

nation in the world. There is no nuclear power plant in metropolitan areas such as Tokyo, Osaka, or Nagoya. We built those nuclear power plants in under populated areas. And, we are taking the trouble to provide power to the city using several hundred kilometers of power lines. Reasons for this trouble are three-fold: The 1st prerequisite for the suitability for its location is there should be no resident in certain areas from the plant. The 2nd prerequisite is there should be a lower density of population outside the plant area. And the 3rd one is that the reactor property should be away from the heavily populated area. In short, if they believe that a nuclear plant is in fact safe then they should build it in the middle of a large city. It is, however, that they know it is not safe. And that is why many nuclear plants were built along coastlines in rural areas.

The government and the Nuclear Safety Commission have insisted that they could not possibly predict this earthquake and tsunami. But they did not build the nuclear plant in the city because they knew what could happen when the accident occurs. Moreover, the Nuclear Safety Commission had assumed situations such as total blackout, a 9.0M earthquake, and even a plane crashing into the plant. They did assume those things might occur, but they could not proceed with the plan if they admitted to it. It costs them a lot, and it is like searching a grain of rice in the desert. Thus, the idea was considered inappropriate. For that kind of thinking alone, the accident is said to be a man-made disaster not a natural one.

On the other hand, nuclear power is said to be clean energy but even a lower level of radioactive waste must be kept underground and watched over for 300 years. High level of radioactive waste must be kept and watched for 10,000,000 years! Who could watch it? In natural environments, we cannot predict what will happen next. We know a machine will break down at some point. There is no such a thing as perfection.

Recently, according to the media, radioisotopes have now been found in mother's milk and urine of elementary school children. Water, rice, beef, vegetable, all those major food contain radioactive materials.

According to the newspaper, a girl living in Iidate village said "I am 15. If it were only earthquake damage, we could get back in normal life. But the accident at the nuclear power plant forced us out of the village and we are now separated. I am a girl. I have a dream of getting married and having a child. If I were exposed to radiation here now, I could no longer have my dream." Who can answer to that? We the adult should never leave the nuclear waste, which is not disposable, to our children. Just because we want to keep a convenient life style, we cannot charge it to our children's account. We must, for

our children's sake, aim for abolition of nuclear power.

5. Nuclear Power Plant that Destroyed Railways

Joban line which Mr. Harada used to work is now blocked for 110 km between Hisanohama station and Watari station. This is because of the emergency evacuation prep zone set out for 30 km around the crippled plant. We cannot even enter the area to see what the damages are like and therefore no reconstruction work is done. Within the area, about 4,800 worksites and 58,000 workers were working. JR office was shut down, though, but there were many other offices being closed and many workers might be laid off. Many workers who had resided and worked in the community had to leave their beloved community. Even then we cannot see how long it will take to end this disaster. We cannot even guess how long. Prolonged lives in shelter with their safety and health concerns have caused the evacuees immeasurable pain and sufferings.

Chernobyl disaster occurred 25 years ago and even today 30 km radius from the power plant is considered mandatory exclusion zone. Chernobyl was concluded in 10 days but Fukushima Daiichi Nuclear Power Plant disaster cannot see its end yet. It is still leaking the radioactive substances. The damage may go beyond Chernobyl catastrophe.

JR East's Railway network was disrupted because of the accident. The railway, life, and work were all taken away from us in instant. There is no way of railway recovery unless the radioactive contamination is cleared. Nuclear power plant is incompatible with us. We cannot even begin the recovery process unless the residents are back in the area. Accidents at nuclear power plant took away the lives of people who live within the 20 km radius from the plant. We cannot make the same mistakes ever again.

Germany and Italy had brought the abolition of nuclear power policy to the light. Railway must seek an energy policy which is kind to an earthly environment. That is the lesson we learned by paying such a huge sacrifice. The standard is life. I am making this pledge to fight until the day that we can live normal life and railway recovery. Thank you for listening.