Section 3 Utilizing the experience of the earthquake disaster

<u>1. Trends of various enterprises in overseas countries/regions, after the earthquake, and</u> <u>nuclear plant accident</u>

(1) Arrangements regarding navigation to Japan

In consideration of the earthquake disaster and the Fukushima Dai-ichi Nuclear Power Station (NPS) situation, various overseas countries/regions issued warnings against travel to Japan, recommending prompt departure from Japan, or evacuation from particular areas for their citizens staying in Japan. Hong Kong and Taiwan issued travel bans to particular areas and recommended prompt departure from Japan; China called for a warning against travel covering all of Japan, and the United States and the UK implemented warnings against traveling to particular areas in Japan. Although some differences were seen in these series of measures according to the country, in contrast with the response of international organizations such as the ICAO or WHO, which quickly notified that they were placing no restrictions on travel to Japan, and announced that the radiological level of the atmosphere and food in Japan is not at a level to impact health, various countries/regions have shown careful responses regarding ensuring the safety of their citizens. This impact involves airlines, especially as the situation with Fukushima Dai-ichi NPS became clearer. Airlines have taken measures; for example switching away from Narita and change stopovers to via Kansai Airport, Chubu Airport or nearby airports in neighboring companies, changing the procurement of the in-flight meals and accommodation of flight crews, etc.

Based on Ministry of Justice data, the number of foreigners entering into Japan in one week just before March 11 was about 157,000 people, but plummeted to about 58,000 in the week following the disaster. (Figure 4-3-1-1). Especially, the entry of tourists and businesspersons (office workers) with no re-entry permission decreased significantly from about 127,000 to around 38,000.

After that, the change in the weekly number of foreign tourists and businesspersons entering Japan in the following three weeks at 20,000, 37,000 and 36,000 respectively represented only 10% of pre-disaster levels. On the other hand, the total number of foreigners entering Japan shows a recovery from about 58,000, 50,000, 87,000 to 106,000 people each week. This indicates that a number of the permanent foreign residents in Japan (persons with entry permits) who left Japan just after the disaster began to return to Japan after the end of March.

On the other hand, the number of foreigners leaving Japan was 140,000, but it increased rapidly to approximately 244,000 in one week just after the earthquake. (Figure 4-3-1-1). Especially, as for the foreigners with re-entry permission (working in Japan or with family here), the number that left increased to about 120,000 from the usual level of about 30,000. After that the departure of those with re-entry permission was about 110,000, 50,000, and 30,000

respectively over the three weeks following the earthquake, and the level of departures exceeded that of before the earthquake. As for the tourists with re-entry permission, around 124,000 people left in the first week following the disaster and the entry of tourists decreased sharply, the number departures decreased, too.

In addition of the sharp decline of tourists and businesspersons to Japan, many foreigners who had settled down in this country left Japan. And also, as of the beginning of April, there is no sign of recovery of the entry of tourists and office workers to Japan, although a portion of the permanent foreign residents in Japan who left Japan returned to Japan, it is supposed that that there are many foreigners who are still out of Japan. For example, for those with their main occupation in Japan, some returned here to work, leaving their families behind.

Figure 4-3-1-1 Change of number of the foreign nationals entering Japan after March 5, 2011



Source: Ministry of Justice Immigration Bureau.



Figure 4-3-1-2 Change of number of the foreign nationals leaving Japan after March 5, 2011

Source: Ministry of Justice Immigration Bureau.

(2) The response of residents of embassies in Tokyo and foreign enterprises

Following March 11, 32 nations (one nation in Asia, five nations in Europe, four nations in Central and South America, 3 nations in Middle East, 19 nations in Africa) closed their embassies in Tokyo temporarily, and took actions to transfer their function to western Japan, and outside of Japan. After that, since the end of March, the embassies of various nations that moved their function from Tokyo have reopened in Tokyo, and all the embassies in Tokyo recommenced on the end of May.

Additionally, some Tokyo-based foreign companies, decided to temporarily close their bases or offices located in the East Japan Pacific coastal area or move the employees to overseas countries or the Kansai region, but they gradually reopened and resumed operations at the end of March and many enterprises returned their head office function back to Tokyo.

(3) The measures undertaken for export from Japan by various foreign countries

In relation to the Fukushima Dai-ichi NPS situation, in some countries/regions, took measures to strengthen regulations such imposing radiological tests of goods exported from Japan. The Japanese government is approaching various nations about their import restrictions through leader's conferences so as to convince them not to impose excessive regulations, and providing correct information through our diplomatic missions abroad and foreign embassies in Tokyo. On the other hand, there are some cases where private enterprises have encountered substantial difficulties such as having their shipments rejected. Exports of agricultural, forestry and marine products and food for April 2011 decreased by 14.7% from the year earlier. Of these, as for food for which import restrictions were strengthened in various foreign countries, the April shipments decreased by 22.9% from the year earlier, and those of May by 22.2%. Especially, there was a large decline in food exports to countries where import restrictions are severe such as China and the EU. Exports to China in April decreased by 64.1% from the year earlier, and those for the EU marked a decrease of 54.2%. The following describes the toughening of inspections in various major countries (based on information as of June 10).

(A) The United States

For food and agricultural products, the FDA issued an import alert on March 22, 2011, and started to quarantine milk, dairy products, fruit and vegetables, and the processed goods from certain prefectures of Japan without inspection.

After several reviews, as of April 12, 2011, (a) some vegetables from Fukushima, Gunma, Ibaraki and Tochigi prefectures and milk from Fukushima and Ibaraki prefectures were not cleared by customs; (b) all milk, dairy products, fruit and vegetables and processed goods from Fukushima, Gunma, Ibaraki Tochigi, Chiba and Saitama prefectures, except items included in (a) were warehoused. In addition inspections of food and fodder from Fukushima, Gunma, Ibaraki Tochigi, Chiba and Saitama prefectures were strengthened, except for the items included in (b). After that, based on the test results of the Japanese government, several reviews were conducted, and, as of May 17, subject items included in (a) were restricted to products from Fukushima and Tochigi prefectures, and subject items included in (b) and placed under stricter inspection were restricted to products from Fukushima, Ibaraki and Tochigi prefectures.

Regarding import cargo, on March 23, 2011, the Department of Homeland Security and the Coast Guard, after notifying the Coast Guard, issued a notice for additional radiological examination of shipments vessels that had navigated within the 50 miles, of Fukushima Dai-ichi NPS in addition to simple radiological examination of cargo.

(B) EU

About food, farm and marine products and fodder, on March 27, 2011, the EU applied common rules in the member nations for the radiological examination of food and fodder exported after March 28 on, (a) products produced before March 11, (b) produced in prefectures other than 12 subject prefectures (Fukushima, Gunma, Tochigi, Ibaraki, Miyagi, Yamagata,

Niigata, Nagano, Yamanashi, Saitama, Tokyo, Chiba) or in the case of the products from 12 subject prefectures, and demanded the attachment of a certificate verifying that the radiation level was within the EU's upper limit, and sample examinations have been conducted by the EU side. And also, on May 25, 2011, they added Kanagawa to the import limitation area, and extended the implementation period to the end of September from the end of June.

Regarding industrial products, on April 14, 2011, the European Commission determined the common threshold value of pollution assessment for vessels and containers leaving Japan after March 12 to be 0.2 microsieverts ($0.2 \mu Svs$) (additional to the background value), and also decided to recommend additional measures when the value exceeds this. In addition, the European Medicines Agency requested pre-export radiological examination of pharmaceutical products manufactured in 13 prefectures. In addition to these as measures, Italy implemented sample cargo examinations (excepting agricultural products) from Japan, and Germany implemented random inspections of vehicle and home electronics.

(C) China

Regarding food, farm and marine products, on March 25, 2011, China, announced import suspension measures from such products from Fukushima, Ibaraki, Tochigi, Gunma and Chiba prefectures. Measures were further strengthened from April 9, 2011, when it expanded the embargo area to include Miyagi, Yamagata, Niigata, Nagano, Yamanashi, Saitama, Tokyo prefectures and items to include all food, farm products and fodder. It also requested certificates of origin and radiological examination certificates by the Japanese government for food imported from other areas, and also implemented sample inspections. Food produced before March 11, 2011 that left port before April 8 was accepted. Following a top-level meeting between Japan and China on May 22, 2011, China proposed to (a) exclude Yamanashi and Yamagata prefectures from the import ban and (b) scrap the radiological examination certificate stipulation for food except dairy products, vegetables, marine products from the 10 prefectures of import ban areas, while keeping the certificate of origin requirement). On May 27, an agreement was concluded temporarily about the forms of the certificate of origin and radiological examination certificates for only marine products.

On April 29, 2011, China announced that it had found 30 cases of the radiation exceeding standard values from persons, aircraft, and containers that entered the country from Japan over the period March 16, 2011 to April 28, 2011.

(D) South Korea

Regarding food, farm and marine products, South Korea decided to temporarily suspend the import of farm products from six prefectures (Fukushima, Gunma, Tochigi, Ibaraki, Chiba and

Kanagawa) that the Japanese Government had already placed restrictions on. In addition, radiological examination certificates were required for all food items from 13 prefectures (Fukushima, Gunma, Tochigi, Ibaraki, Chiba, Tokyo, Miyagi, Yamagata, Niigata, Nagano, Saitama, Kanagawa, Shizuoka) (except products under the import suspension from the above six prefectures), and for food, farm and marine products from all 34 prefectures except 13 prefectures, presentation of a place-of-production certificate issued by the Japanese government became a requirement.

It also enforced radiological examination of containers and outer packing cargo. The standard values were 0.04 Becquerels/cm² for alpha rays, and 0.4 Becquerels/cm²) for non-alpha ray emissions as the mean value measured for a 300cm² surface area.

(E) Malaysia

Regarding food, farm and marine products, after April 15, for all foods and pharmaceutical products and cosmetics (produced in Fukushima, Ibaraki, Gunma, Tochigi and Chiba) imported from Japan, a radiological examination certificate is required, and for the pharmaceutical products and cosmetics, sample inspections were conducted for every batch. Food items with a dated place of production or radiological examination certificate attached were accepted from April 27.

(F) Indonesia

For food, farm and marine products, imported after March 11 from Japan, a radiological examination certificate approved by the Japanese government was required, subject to inspection by Indonesia. Pharmaceutical products are inspected individually based on the attached document provided by the importer (manufacturer or transportation route).

(G) Thailand

Regarding food, farm and marine products, all products required certificates issued by Japanese Government organization or local government indicating the place of production. Furthermore, radiological examination results for food from 12 prefectures including Fukushima (Fukushima, Gunma, Tochigi, Ibaraki, Miyagi, Yamagata, Niigata, Nagano, Yamanashi, Saitama, Tokyo, and Chiba), was required. On May 13, the requirements and forms of the place of production certificate were determined between the Japanese and Thai governments.

Countries/ regions	Target articles	Standards, implementation contents
U.S.	Vessels and imported goods from Japan	 Officer of the United States Customs and Border Protection (CBP) implements a simple first inspection of the airplane/ ship. When a radiation dose over a certain level is detected in the first inspection, a detailed second inspection is implemented. For the vessels that navigated within 50 miles (approximately 80 kilometers) of the Fukushima-Daiichi nuclear power plant, The Coast Guard implements an examination of radiation separately from inspection of CBP before the arrival in port.
EU	Vessels and containers from Japan	• All the EU member countries are recommended to adopt $0.2 \mu Sv/h$ for the radioactive contamination assessment standard of vessels and containers from Japan.
Germany	Imported goods (automobile, electronic equipment) from Japan	• Implementation of sample inspections.
	Vessels from Japan	• Implementation of radiation test in the Hamburg Port $(0.2 \ \mu Sv/h)$.
Netherlands	Imported goods from Japan	• At Rotterdam Port, sea-based inspection of vessels from Japan, and inspection of containers (4Bq/cm ²) before devanning.
Italy	Imported goods from Japan	• Implementation of sample inspections.
Russia	Imported goods from Japan	 Implementation of simple tests from the outside without opening containers (whole quantity inspection). When values exceeding the standard value are detected, extract a sample from the cargo concerned, and implement a detailed inspection. The standard value is 0.3µSv/h (except the natural radiation dose).
Ukraine	Imported goods (especially those which from the region where an accumulation of radiation is anticipated due to nuclear power plant accident of Japan)	 Require radiation tests for imported goods by existing laws and ordinances. On March 29, radiation screening for the imported cargo was strengthened.
Lebanon	Imported goods from Japan, products which the country of origin is Japan	• Certificate of radiological examination is required. Standards are not officially announced.
Egypt	Used car parts / scrap from Japan Import goods other than the above	 Import ban. Implementation of radiological testing. Standards are not officially announced.
Sri Lanka	All the cargoes arriving from the region and its neighboring ports of Japan which suffered	• Standards are not officially announced on the website.

Table 4-3-1-3 Status of radiation inspection being implemented in the various overseascountries/regions (industrial products field) (as at May 26)

Singapore	Cargo from Japan	 Implementation of whole quantity radiological inspection by Maritime and Port Authority of Singapore in the ports, and by Changi Airport group at the airports. The standard value is 1µSv/h.
Myanmar	Import goods from Japan	 Implementation of radiological test at Yangon port and Yangon International Airport. The standard value is 3µSv/h .
China	Vessels, aircraft, import goods from Japan	• Department of Supervision on Animal and Plant Quarantine, Import and Export Food Safety requests monitoring of nuclear materials and radiation levels at port customs clearance by inspection quarantine organizations in various regions. *The object examination or laboratory procedures for cargoes varies by region.
Hong Kong	Air freight and ocean freight from Japan Drugs and cosmetics from Japan	 Implementation of surface inspection for all the air freight and sample surface inspection for ocean freight. Implementation of sample inspection.
Taiwan	658 items of imported good from Japan, including machines, electrical goods, electronics, manufacture of chemicals, electronic information communications instruments All containers from 13 ports around the disaster- stricken area (Sendai Shin-ko port, Miyagi etc.)	 Implementation of sample inspection. Atomic Energy Commission sets the standards as follows. Radiation control provisional standard is determined as 0.2μSv/h (including natural radiation). In the case of the result under 0.2 μSv/h , all goods are passed: if the measurement is over 0.2 μSv/h , the owner must decontaminate, or send back the goods directly. When radiation dose of 0.2μSv/h or over is detected, the importer must notify the responsible authority and, notify the exporter to perform decontamination or adopt the arrangement of returning the merchandise.

Notes: The above is the information sorted out in reference to public information at the time of this release. When actually exporting, please refer to the websites of the various countries/regions. Source: Compiled from the data of Ministry of Economy, Trade and Industry publication data.

Table 4-3-1-4 Status of radiation inspection and regulation in the major countries/regions(Vessels, marine containers, etc.) (as at May 12)

Region	Country/ region	For	For Method of inspection		Grounds	Remarks
Asia	China	Both for vessels and import cargo * Only for the important point	First inspection: Gamma ray inspection Inspection with the all quantity gate type radiation inspection equipment by inspection and quarantine staff (sample survey with portable monitors when the equipment mentioned above is not available). Opening of the containers is not conducted in principle.	Gamma ray dose rate >= 3X the background value	Generic Procedures for Assessment and Response during Radiological Emergency. (2000) procedure book D2 (decontamination of humans and equipment)	
			Second inspection: Alpha ray inspection, Beta ray inspection Method of inspection is the same as the first inspection. Based on surface criteria. When a value over the standard value is detected, inspection by specialized ggencies of the environmental protection sector in each place is performed, and further alpha ray, beta ray inspections are implemented. If the value is still over the standard value, a specialized processing method is implemented.	Alpha ray value >= 0.04 Bq/cm ² Beta ray value >= 0.4 Bq/cm ²	Chinese safety standard * GB18871-2002 "Basic standardss for protection against ionizing radiation and for the safety of radiation sources" Table B11 (the radiation surface contamination control level of the work area) "hand, skin, underwear, socks for work" * GB-11806-2004 "Regulations for the safe transport of radioactive material" 3.14 (surface contamination)	The background values are set from the daily measurements at various cities, airports and ports.
	South Korea	Marine container and import cargo	Measurement for 300 cm2 of containers and cargo outer packing surface at random	Alpha ray value >= 0.04 Bq/cm ² Others >= 0.4 Bq/cm2	The standard is based on the nuclear energy law by the educational science engineering department (law determining regulation about atomic research and development, production and use)	No ground method about the implementation of the radiation dose examination
	Hong Kong	Marine container	Implementation of surface inspection with a Geiger counter for 20 samples extracted per day, focusing on articles shipped from ports including Tokyo, Yokohama comparatively near to the Fukushima Dai-ichi NPS. * However, sample inspection by cargo for food (food safety center), pharmaceutical products (Food Health and Medical Bureau Medical section), cosmetics and hygienic goods coming in touch with the human body (Hong Kong Customs House). Implementation of the final inspection in government laboratory on the sample detected any reaction,	30 Bq/cm ²	Reglation by Hong Kong government (1993) in relation with accident at Daya Bay NPS in Shenzhen	No inspection is implemented vessel by vessel, but, acceptance of entering port may be judged from the declared information basis of container.

	Taiwan	Marine container	Customs: Inspection of outside surface of container (whole quantity) by customs staff with radioactivity detector Target container: All marine containers from Sendai Port, Sendai Shiogama Port, Ishinomaki Port (Miyagi), Onahama port, Soma Port (Fukushima), Ibaraki Port, Kashima Port, Kawashiri Port, Otsu Port, Ooarai Port (Ibaraki), Kamaishi Port, Miyako Port (Iwate), Hachinohe Port (Aomori). When the value over the standard value is detected, notify responsible authority and ask the importer whether to conduct decontamination of radioactivity or return the container.	Control temporary standard 0.2µSv/h (not including natural radiation dose (background value)	Administrative Atomic Energy Commission decision "Merchandise inspection control temporary standard about the radioactive substance contamination" (March 21)	The decontaminatio n is performed by 11 organizations permitted by the Atomic Energy Commission, including Republic of China Association of prevention of radiation National Qinghua University, and Atomic Energy Research Institute.
Asia		Import cargo: Electrical goods, electronics fodder, manufactu e of chemicals, machinery (in containers)	Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs: Customs staff use handheld radioactivity measuring equipment, approaching the cargo and measure the radiation level. When the value over the standard value is detected, deal the problem based on the temporary standard of the Atomic Energy Commission. * Implementation based on the inspection ratios of sampling and lot			
	Vietnum	Import cargo	The merchandise suspected of radioactive contamination undergoes inspection before import permission, and when radiation doses over the standard are found in merchandise, import is not approved.	No specific numerical value		
	Singapole	Import cargo	Implementation of whole quantity inspection by Maritime and Port Authority of Singapore	1.0µSv/h	IAEA Standard value	
	Indonesia Thailand Malaysia Philippines India	No implementation of radiation inspection				
Americas	USA	Import cargo	There is no definite answer about the method of inspection due to confidential information.	*DOT standard: Less toxic alpha ray, beta ray, gamma ray <= 0.4Bq/ cm ² * Decontamination required or under DOT control: 0.4Bq/ c m ² Less toxic alpha rays, beta rays, gamma rays <= 4Bq/ cm ²	Section 5101 of Title 49 of the U.S. Code	* DOT = U.S. Department of Transportation
	Mexico	Marine container	Check the outside of the container. For the cargo beyond the regulation value found by the check of the container, inspection for inside the cargo is implemented.	1.8µSv/h	The hearing from the Department of Energy national nuclear energy safety, security measures Committee	No radiation dose standard for vessel, sailor, crew, traveler, and

	Australia	Marine import cargo	Check the cargo in the container. When the value over the standard value is detected, the cargo is opened for inspection, and re-inspection after decontamination.	20µSv/h	radiation safety team.	baggage. Implementation of all the cargoes not limiting to Japanese cargo.
Oceania	New Zealand and laboratory in charge of the reaction inspection for radiation of radiation inspection inspection inspection for radiation inspection inspection inspection inspection for radiation inspection in		•β*Beta, gamma and less penetrative alpha radiation: 4Bq/cm2 *Other alpha rays: 0.4Bq/cm ^{2.}	"IAEA radiation substance transportation rule"2009, "ICRP radioprotection recommendation"2007, "IAEA Generic Procedures for Assessment and Response" and "Emergency intervention due to radiation exposure" Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).	Grounds laws and ordinances: Radioprotection law 1965 and Radioprotection rule 1982.	
Europe	EU	Vessels and marine container	Surface inspection of ship body, deck, and containers.	0.2μSv/h * background value not included	Recommended document (15 2011 April ENER/D4/AJ/SM/cn Ares (2011) issued by European Commission Directorate General for Energy.	Recommendatio n value for the member countries, No binding force.
	Germany	Vessel and import cargo	When radioactivity over the regulation value is measured by ship inspection, performed by the customs.	4 Bq/cm ² * radiation maximum value.	Germany Federal Ministry for the Environment 4/8 press release (recommendation).	
	(Hamburg)	Vessels and marine container	When evidence of no risk is not provided by prior declaration, state water police firefighters implement checks on the upper crew deck, air conditioner filter, and engine ventilation filter, while traveling from the neighborhood of Elbe estuary to Hamburg Port. When the value over the standard value is detected, reexamination is conducted in an anchoring at Finkenwerder Phaehlen outside Hamburg Port. If the value still exceeds the standard in the reexamination, irrigation must be considered. The cargo is inspected by customs.	0.2 μSv/h * Unknown whether background value is excluded.	State of Hamburg Department of the Interior 4/12 press release.	
	Netherlands	Import cargo: Food and fodder, consumer products, electric appliance s and plants	(4) Specific cargo inspection by Netherlands Food, Consumer Safety Agency (nVWA). Individual inspection for the specific cargo in the left column			

	UK	Marine container s and import cargo	Implementation of radioactive substance search to perform screening of illegal radioactive substance into the UK for all cargoes, travelers arrived at the British ports. Apply to average of any surface 300 square centimeters. When the value over the standard is detected on ocean freight, required contamination prevention measures are instructed.	* Beta, gamma, less toxic alpha rays: 4Bq/ cm ² * Other alpha radiators: 0.4 Bq/ cm ²	IAEA "Rule about the safety of the transportation of radioactive substances" (TS-R-1) Clause 507)	
	Romania	Vessel and import cargo	Measurement at 10cm from the surface.	0.1µSv/h or under * background value not included	Radioactive Substances Basic Safety Regulations Article 4 determined based on Romanian nuclear energy activity control national committee commissioner directive (14/21.01.2000)	
	Sweden	Vessels and marine container s	The radiation safety agency in Sweden instructs Swedish customs authorities to follow EU recommendations . No answer regarding the specific method of inspection.	0.2µSv/h * background value not included	Application with necessary changes of the European Commission recommendation	
	Italy Spain Norway Denmark					
Europe	Russia	Vessel and import cargo	Implementation of inspection by federal supervision agency for consumers rights protection and welfare implementation of whole quantity inspection for vessels in port, for import cargo at the time of loading and unloading.	0.3µSv/h	* The Customs Act of the customs union * Russian Customs Committee law 303, May 5, 1995 " About the introduction of customs inspection specialist for fissile, radioactive substances" Russian Customs Committee law 154, February 4, 2004 "Approval of instructions about the activity of customs staff in pursuance of custom inspection for fissile, radioactive substances"	
	Turkey	Marine containe rs, import cargo	Inspection of all containers with a large-sized gate-type radiation detector. When a value over the standard value is detected, Additional inspection and decontamination is carried out at another place. Uncontaminated cargo can be cleared through customs, even if it is stored in the container where a contamination level over the standard is confirmed,			
	Kuwait	Vessel and import cargo	By collaboration with the Ministry of Health, customs inspection is carried out the port.	*Beta, gamma, less toxic alpha radiator: 0.4 Bq/ cm ² * high toxic alpha radiator: 0.04Bq/ cm ² * background value is excluded	a	
	Egypt	No implementation of radiation inspection				

Notes: The above is the information sorted out in reference to public information at the time of this release. When

actually exporting, please refer to the websites of the various countries/regions. Source: Compiled from the published data of Ministry of Land, Infrastructure and Transport.

2. Japan's measures for quick dissemination of accurate and transparent information

Due to the earthquake disaster and the accident at Fukushima-Dai-ichi NPS, travel restrictions to Japan and evacuation recommendations to foreign residents in Japan were issued by various countries. This had a significant negative impact on Japan including the Tokyo metropolitan area. The successive departure of foreigners and cancellation of visits to Japan was not a welcome phenomenon. Furthermore, in some countries/regions, action has been taken to strengthen inspections and restrictions concerning Japanese exports. In such a situation, Japan is required to quickly provide accurate and transparent information to the global community and is currently doing its best. For example, the reduction in various numerical values of radiation is shown for the results of tests monitoring for example the atmosphere, water and food. The tests show various worsening values for atmosphere, water, and food. We will continue reliable monitoring in the future and offer the "security and safety" of Japan to the world. We will distribute our measurement data to various quarters as follows.

(1) The monitoring system, which we expanded over a short amount of time

(A) Environmental radiation monitoring

In response to the accident of the Fukushima Dai-ichi NPS, with the participation of Fukushima Prefecture and TEPCO, we officially publish results of the measurement of the air radiation dose rate, atmospheric floating dust, and the soil radiation levels in, around and beyond the 20 kilometer exclusion zone of Fukushima Prefecture. Furthermore, we measure the air radiation dose rate in elementary schools, junior high schools and kindergartens in Fukushima Prefecture. We also carry out radiation monitoring in the sea and check aircraft for radiation.

In addition to the area around Fukushima Dai-ichi NPS, we officially publish the results of the environmental radioactivity level surveys from monitoring posts installed in various prefectures (Figure 4-3-2-1). We also publish the results of water supply (tap water) measurement and fallout in various prefectures. With the cooperation of universities and technical colleges around the nation, we also measure the level of atmospheric radiation in the yards of universities in various major cities.

The results so far demonstrate that the level of atmospheric radiation outside of the evacuation zone in major cities does not present any danger to public health.

In Tokyo, which is more than 230km away from the NPS, although the numerical value increased temporarily to 0.809μ Gy/h (μ Sv/h) on March 15 just after the earthquake disaster, it has returned to almost the normal measurement range as before the NPS accident. Moreover, the observed values in Osaka and Hokkaido, which are distant from the NPA, are consistently in the range observed before the earthquake disaster and just after the accident. In Fukushima on

March 15-16, the high numerical value of 25μ Sv/h level was observed, but after that the value changed to within the level of 1 - 3μ Sv/h. To put these into perspective, when we are continually exposed to radiation of 2μ Sv/h outdoors for one year, dose the human body receives is 17,500 μ Sv/h annually. This corresponds to the amount of radiation received from 2.5 CT scans. Moreover, if there is shielding, such as building materials, between the human body and the radiation source, the radiation dose is reduced, and the radiation dose to the body actually becomes less than the atmospheric value.



Figure 4-3-2-1 Change of atmospheric radiation levels

Source: Compiled from the website of Ministry of Education, Culture, Sports, Science and Technology, and Fukushima prefecture website.

(B) Monitoring of tap water

Because radioactive iodine of 210Bq/kg was detected on March 22 in tap water, which is over the 100Bq/kg limit set as safe for infants, the Tokyo Metropolitan Government advised issued an advisory recommending parents to not to give tap water to infants. Two days later, it was confirmed that the numerical value fell to 79Bq/kg, and currently the value has been at a level in which radioactive iodine has not been detected at all or it only a very small amounts. The situation was almost the same in Chiba, Ibaraki and Tochigi prefectures where higher radioactive iodine levels were detected. In Iitatemura, Fukushima Prefecture, the radioactive iodine levels of 965Bq/kg, 300Bq/kg over the permissible limit, were detected, and restrictions on tap water intake for adults and infants were announced. However the restrictions on water intake were canceled on April 1 for adults and on May 10 for infants. And at present, the situation has been similar in other prefectures, too.

(C) Monitoring of airports and ports

In response to the Fukushima Dai-ichi NPS situation, implementation and enhancement of the radiation examination for containers, aircraft and vessels departing from Japan, and cancellation of calling at Keihin ports were recognized. In response, the Japanese government implemented measuring at Narita and Haneda Airports from March 20, and from the middle of March, results of atmospheric and seawater radiation levels in and around the ports were officially on the Ministry of Land, Infrastructure and Transport's website. As for export containers and vessels, radiation measurement was implemented from April 28 based on the "Guidelines on Radiation Measurements for Export Containers in Ports" and "Guidelines on Radiation Measurements of Ships" issued on April 22.

(2) Safety of Japan's exports

(A) Food and agricultural products

As atmospheric radioactivity was detected in following Fukushima Dai-ichi NPS accident, temporary restrictions were imposed on food intake by the Nuclear Safety Commission according to the Food Sanitation Act, and local governments were notified on March 17 that food items with radiation level exceeding limits set by the government should not be provided for consumption.

On the other hand, for fishery products for which the Nuclear Safety Commission did not specify any limit, local governments were notified on April 5 that they should apply a limit of 2,000Bq of radioactive iodine /kg of culinary vegetables to fishery products.

Following the fact that in some food items, radiation exceeding the limits set on the basis of the Food Sanitation Act was detected in various prefectures after March 21, the Prime Minister, who is the head of the Nuclear Emergency Response Headquarters, issued shipment restrictions on food items produced in these areas and restrictions were also imposed on water intake, and the local governments concerned were also notified accordingly. When it was found that the set radiation limit was consistently lower than the temporary standard, further monitoring was discontinued, and restrictions on such items were withdrawn with permission from the Nuclear Emergency Response Headquarters. Furthermore, movements such as strengthening of inspections were found in various foreign countries, and in response to this, the Ministry of

Agriculture, Forestry and Fisheries sent delegates to major export destination countries/regions individually, in order to promote resumption of exports of food items and agricultural products from Japan. Thus, the government of Japan organized lobbying activities by providing information about the steps taken by Japan and the results of the tests performed in Japan. At the same time, the Ministry began providing Japanese exporters with information about the enhancement of food regulations in major export destination countries/regions and paid subsidies for export inspection fees, and subsidies to inspection bodies for introduction of inspection equipment.

(B) Industrial products

When exporters are required to submit evidence about the radiation levels to their overseas customers, the information regarding the inspection institutions for checking the radiation levels and information of certificate services provided by chambers of commerce are supplied to them. In addition, JETRO has established emergency consultation offices to provide consultation services to companies individually at the trade information centers located at 36 places around the country. Moreover, in order to prevent blockages to distribution due to damage done to the reputation of exporters through unfounded rumors, and to facilitate trade, the government will subsidize the cost of radiological inspections on exports (including agriculture and forestry and fisheries products) performed by government-designated inspection institutions.

* Subsidy for trade facilitation projects (Earmarked in the first supplementary budget in 2011) Total of approximately 700 million yen
Subsidy rate:
Small and medium-sized enterprises: 90%, and
Large enterprises: 50%

(C) Certification systems in ports

Based on the "Guidelines on Radiation Measurement for Export Containers in Ports" and the "Guidelines on Radiation Measurement of Ships," from April 28, certificates of radiological examination of export containers and vessels by public institutions (government authorities, port management institutions, and the Nihon Kaiji Kyokai) were started consecutively.

(D) Industry groups

Not only the government but also the industry groups have been taking necessary steps. The

Japan Automobile Manufacturers Association, Inc. announced on April 18 plans to implement radiological testing mainly for finished vehicles bound for export. In addition, the National Institute of Advanced Industrial Science and Technology provided radiation measuring equipment and sent experts for radiological testing of industrial products in Fukushima.

Chambers of commerce and industry round the country started to issue "radiological testing inspection certificates" which were required by exporters since March 28 (Figure 4-3-2-2). "These certificates were provided as "written oaths of non-contamination." The number of such certificates issued increased, and by May 20, 19 major chambers of commerce and industry issued 2,754 certificates of which the industrial product-related certificates accounted for 65.2% of the total (based on the data from Japan Chamber of Commerce and Industry). Chambers of commerce and industry in each region provided "samples of the written oath of non-contamination" which refer to readings of environmental radioactivity levels of the Ministry of Education, Culture, Sports, Science and Technology, and the standard value of the International Commission on Radiological Protection (ICRP). These were utilized on the requests by enterprises around the, and were issued by 236 chambers of commerce and industry as of May 20. On the other hand, on May 22, domestic radiation inspection institutions were located in 21 places, and also additionally, prefectures were also taking radiation readings.

(E) Measures taken by export insurance companies to deal with the damage done to Japan's reputation through dissemination of unfounded rumors

On April 11, 2011 Nippon Export and Investment Insurance (NEXI), officially announced concrete examples of losses caused by import barriers and prohibition of imports for the reason of radioactive contamination, and discussed cases covered by export insurance including cases of prohibition or restriction of import by the introduction of new regulations or cases of illegal or discriminatory measures imposed by the governments of export destinations, which damaged Japan's reputation through dissemination of unfounded rumors. In addition, a consultation office was established within NEXI, and consultations on the damage to Japan's reputation through unfounded rumors were widely accepted from members including those who have not joined the export insurance scheme.

Figure 4-3-2-2 "Sample of exporter's written oath" in the form quoting the official Environmental Radioactivity Level published by the Japanese government (prepared and published by the Tokyo Chamber of Commerce and Industry)

(SAMPLE)

To:

CERTIFICATE OF ENVIRONMENTAL RADIOACTIVITY LEVEL

In accordance with the official Environmental Radioactivity Level by Prefecture report published by the Ministry of Education, Culture, Sports, Science and Technology of Japan, ABC Corporation hereby notifies you of recent environmental radioactivity level monitoring results in the principal city of the prefecture in which the manufacturer produced the cargo for exportation described below. This is one of the most reliable sources of information on environmental radioactivity levels in Japan.

In addition to the above, ABC Corporation certifies that the annualized radiation dose in Item 3-b. is below the individual dose limit (public exposure) in a year (cites in International Commission on Radiological Protection (ICRP) publication 103)

- 1. Monitoring date:
- 2. Monitoring site (as described above):
- 3. Monitoring results:
 - a. Average radiation dose :

 μ Sv/h μ Sv/y

, 2011

- b. Annualized radiation dose(a. x 24h x 365d):
- 4. Individual dose limit (public exposure) in a year (cites in ICRP publication 103): 1,000 μ Sv/y
- 5. Name and address of exporter:
- 6. Name and address of importer:
- 7. Invoice number.:
- 8. Description and quantity of cargo for exportation:
- 9. City of manufacturer's location:
- 10. Date of scheduled shipment(on or about):

ABC Corporation

(Signature)

Taro Yamada General Manager Source: The Tokyo Chamber of Commerce and Industry

(3) Quick transmission of correct information overseas

(A) Transmission of information to governments

At a top-level meeting between Japan and France on March 31 and one between Japan and Australia meeting on April 21, Prime Minister Kan explained about the Great East Japan Earthquake and subsequent situation and an explanation was provided by Minister of Economy, Trade and Industry Kaieda at the April 24 Economic Ministers Meeting between Japan, China and South Korea and also at the end of June at the IAEA Cabinet meeting on nuclear energy safety. In addition, an explanation was provided by Foreign Minister Matsumoto at the March 14 G8 meeting and at the meeting of Foreign Ministers of Japan, China and South Korea on the 19th, at the special meeting of Ministers of Foreign Affairs of Japan and ASEAN of April 9, and at the Japan-U.S. Ministers of Foreign Affairs meeting of 17th (Figure 4-3-2-3). In addition, at the APEC ministers of trade meeting of the OECD Council at ministerial level and at the G8 Deauville summit, at the meeting of the OECD Council at ministerial level and at the G8 Deauville summit, we provided explanations regarding the current situation of Japan, and about the import and export-related measures taken by various countries in various outcome documents, and the importance of the authorities concerned of various countries implementing proper measures based on scientific grounds was confirmed (Table 4-3-2-4).

The government decided as a general rule to conduct a briefing session every day from March 13, and from May 18, on a three days a week basis, it provided information on water and food safety, as well as the safety of ports, and airports, to the diplomatic corps in Tokyo and other international organizations, and spoke mainly on the situation over the Fukushima Dai-ichi NPS accident, and tried to transmit accurate information through explanations and questions and answer sessions. On April 27, a briefing session was arranged for the diplomatic corps in Osaka.

Figure 4-3-2-3 Speech of Mr. Kaieda, Minister of Economy, Trade and Industry at the IAEA Ministerial Conference



1	APEC Meeting of Ministers	"We agree to refrain from taking WTO-inconsistent
	Responsible for Trade (May 19, 20)	measures in the aftermath of recent natural disasters
	Chairperson's Statement of the Chair	in the region, recognizing the importance of
		securing the prompt return of the smooth flow of
		goods, services, and people in the Asia-Pacific
		region."
2	Joint statement between Ministry of	"In order to prevent damage from harmful rumors
	Economy, Trade and Industry and	obstructing the economic and trade cooperation of
	the China's Ministry of Commerce	the two countries, the both ministries agreed to
	(May 21)	promote smooth development of the trade of the two
		countries."
3	The Leaders Declaration of the	"We shared the view that it is important to take
	fourth Japan, China and Korea	necessary responses prudently on the safety of
	Summit (May 22); attached	products based upon scientific evidence in case of a
	document: "Cooperation on Nuclear	nuclear accident."
	Safety"	
4	Chairman's summary statement in	"Ministers renewed their commitment to resist
	Meeting of the OECD council at	protectionism, and shared the view of the need to
	ministerial level (May 25, 26)	refrain from taking WTO-inconsistent measures in
		the aftermath of recent natural disasters."
5	The Leaders Delaration of 5 G8	"The Prime Minister of Japan explained that his
	Deauville Summit (May 26, 27)	country would make every effort to minimize the
		uncertainty that the disaster might add to the global
		economy, including as a result of the nuclear
		accident. In particular, he committed to provide all
		relevant information regarding the nuclear
		emergency in a timely manner, and he ensured that
		products exported from Japan are safe. We stressed
		that measures on goods and travel should be based
		on scientific evidence."
6	Japan-EU Summit Joint Press	The EU and Japan leaders agreed on recognition
	Statement (May 28)	that it is important to take the measures based on a
		sufficient scientific basis including the flow of
		goods and people.

Table 4-3-2-4 The outcome document of the international conference (Portion related to the reputation damage through unfounded rumors)

Source: Compiled from Ministry of Economy, Trade and Industry data

(B) Transmission of information to industry and foreign media

The Ministry of Foreign Affairs gave direction to all diplomatic missions abroad (embassies, consulate generals, etc.) to enhance transmission of earthquake disaster-related information, and held briefing sessions all over the world from April 20 with the cooperation of Japan's overseas diplomatic missions, JETRO and (as of June 3, sessions were held in Beijing, London, Shanghai, Los Angeles Bangkok Seoul Paris Dusseldorf and Taipei sponsored by the International Exchange Association), 12 countries/regions including Mexico City, Hong Kong, Milan, Singapore, New York and Brussels, and 15 other cities) (Figure 4-3-2-5). Documents about the present situation of Fukushima Dai-ichi NPS were sent to all diplomatic missions. The missions are working to provide information, as are VIPs and well-informed persons, and sending correct

information to concerned parties of the various countries through local media and the Internet, requesting that any countermeasures be based on scientific grounds. The transmission of information and lobbying activities by diplomatic missions abroad succeeded in offering accurate disaster related data on more than 1,500 occasions all over the world, through giving interviews and television appearances by Japanese Ambassadors, and circulating press releases, disseminating correct information on mini-blogs, etc. (as of May 11).

Figure 4-3-2-5 Briefing sessions held in overseas with the cooperation of diplomatic missions and JETRO concerning the Great East Japan Earthquake and Fukushima Dai-ichi NPS, and some of the materials presented.

Beijing (April 20)



Data (English version)







Chinese version

Korean version



Source: Compiled from Ministry of Economy, Trade and Industry data

Also in Japan, various briefing sessions were held on March 31 and April 28 in Tokyo for industry, and on June 2 in Osaka, and 266 people participated in total. The Ministry of Economy, Trade and Industry has been providing information by e-mail to foreign governments, opinion leaders, the media, and experts every day since March 14, about the earthquake disaster and nuclear power plant accident (Figure 4-3-2-6). As of April 27, approximately 41,800 e-mails were sent out.

In addition, press conferences and briefings were given for foreign media correspondents in Tokyo almost every day following the earthquake disaster until the end of April, and also the same media events were arranged even after then as necessity dictated. Interviews for foreign media were given on March 20 and 21 by Deputy Chief Cabinet Secretary Fukuyama, on April 12 by Chief Cabinet Secretary Edano, and on April 17, 27 and on May 9 and 19 by Prime Ministerial aide Hosono respectively. Furthermore, positive explanations were provided to opinion leaders, for example Chief Cabinet Secretary Edano transmitted a message to the World Economic Forum Global Risk Conference. Other activities by the government included responses to requests for interviews by foreign media for the Prime Minister or cabinet ministers and quick transmission of related information through press releases in English. Prime Minister Kan contributed to the Washington Post, and Foreign Minister Matsumoto to the International Herald Tribune. The government is going to continuously work on aggressive transmission of information to the foreign media in the future.

Figure 4-3-2-6 Map of radiation levels by prefecture delivered by e-mail every day from the government



Source: Compiled from the website of the Ministry of Education, Culture, Sports, Science and Technology, and Fukushima Prefecture website.

(4) The response from international organizations

(A) The International Civil Aviation Organization (ICAO): "No restrictions on travel to Japan"

On March 18, 2011, the ICAO issued a press release that stated that it was recommending "No restrictions on travel to Japan." The ICAO's announcement was in the form representing five organizations of United Nations¹ including the World Health Organization (WHO), and the International Atomic Energy Agency (IAEA). According to the press release, international aviation transportation to and from Japan could be safely carried out as usual. Naturally, the airports directly affected by tsunami were excluded for use. The restriction on international air travel to and from Japan was not necessary based on the extant medical grounds, and the UN said it would continuously monitor the situation and give advice as needed. In addition, at that moment, radioactivity screening for international travelers from Japan was not required. An increase in radioactivity levels was found at some airports, but there was no health risk at all at that point in time.

On April 1, as a follow-up of the press release from the ICAO as mentioned above, a new press release was announced the "Current radioactivity level in Japan and advice on travelling," which confirmed that, since the monitoring results Fukushima Dai-ichi NPS remained unchanged, there was no risk to the health or safety of air transportation and radioactivity screening was not required for travelers presently arriving from Japan.

On April 14, as a follow-up of the press release dated April 1, another press release titled "The present situation of travel and transportation to and from Japan" was issued. According to that, the UN agency, which was closely monitoring the impact of Fukushima Dai-ichi NPS was convinced that the current radiation level did not pose any risk in respect of the health of passengers and crew and the safety of transportation. Radiological monitoring around airports and ports of Japan continuously showed that radiation levels were within the safety range for human health. Thus far, the result of monitoring conducted by various countries on travelers, crews and cargo from Japan revealed no health risk and it was all safe. This means that presently it is not necessary to conduct radiation screening for the purpose of securing health and safety at airports around the world.

(B) International Air Transport Association (IATA): "No restrictions on travel to Japan"

Following ICAO's above press release titled "No restrictions on travel to Japan" dated March 18, an identical press release was issued by IATA on March 19, which also said, "No restrictions

¹ The U.N. agencies, which are involved in monitoring process of this project are the World Health Organization (WHO), the International Atomic Energy Agency (IAEA), the World Meteorological Organization (WMO), the International Maritime Organization (IMO), and the International Civil Aviation Organization (ICAO).

on travel to Japan," In the press release, the IATA supported the ICAO representing five UN organizations in respect of their declaration of the safety of air travel to and from Japan. In this way, their confirmation that there was no medical need to perform radiation screening for travelers from Japan, and that there was no radiation related health risk at all at Japanese airports benefited Japan immensely.

Further on April 1, following ICAO's press release titled "Current radioactivity level in Japan and advice on traveling," another press release was issued on the same day by IATA that said, "The UN agency confirmed the safety of aviation in Japan - Screening of travelers is unnecessary." The contents of the press release was the same as that of the ICAO, which confirmed that radiological monitoring of Fukushima Dai-ichi NPS showed that the situation remained unchanged, so that there was no health or safety risk with regard to transportation to and from Japan and that radiological screening was not required for travelers arriving from Japan.

(C) The International Maritime Organization (IMO): "There is no health damage caused by the radioactivity at Japanese ports"

On March 21, the IMO issued a press release with the same contents as that of ICAO's dated March 18 as mentioned above. On March 24, the IMO issued a press release informing that it had send a circular entitled "About navigation in ocean surrounding Japan following the earthquake and the tsunami of March 11, 2011" to member countries. According to the press release, following the damage to the Fukushima Dai-ichi NPS, the IMO issued the above circular recommending ship owners and ship captains to follow the latest navigation warning issued by the coordinator of NAVAREA XI (Japan) for member countries. The circular stated that Japan's Ministry of Land, Infrastructure and Transport confirmed that the international ports undamaged by the earthquake and the tsunami were operating normally, and that the radioactivity measured by local governments indicated that the radioactivity around these ports would pose no health hazard. In addition, on April 1, the IMO issued a press release telling that it had send a circular entitled "the current radioactivity level in Japan and navigation information" to member countries (with the same contents as those issued on the same day by the ICAO).

Furthermore, a press release entitled "the present situation about travel and transportation to and from Japan" was issued from the IMO on April 15, which was circulated to the member countries together with the press release. The main contents were as follows.

(a) The UN agency that minutely monitors the impact of Fukushima Dai-ichi NPS was convinced that the current radiation level did not pose any hazard to the health of passengers and crew and that it is safe for sea borne traffic and transportation. (b) Radiological monitoring around the airports and the ports of Japan continuously confirmed that the radiation level was within the safety range from the viewpoint of human health. Furthermore, the monitoring of crew, passengers and the cargo originating or returning from Japan, which was conducted until then was based on the policies of various countries revealed no risk to human health and was absolutely safe for all concerned. Accordingly, it was considered unnecessary to conduct any physical examination at various airports and seaports for radiation.

(c) The information on travel and transportation to and from Japan had no connection with the INES assessment.

3. Utilizing the experience of the earthquake disaster

As mentioned above, the aftereffect of the earthquake, tsunami and subsequent leakage of radiation from Fukushima Dai-ichi NPS had a great impact on the economy of Japan. The impact extended to transportation and distribution, sightseeing, shipping and aviation. As a result of the radiation leakage, some countries/regions strengthened inspections of Japan's export goods, and some countries even banned the import of Japan's agricultural products.

Japan was required to provide quick and accurate information about radiation to the global community and Japan tried its best to comply. Radiological testing with proper monitoring systems for detection of atmospheric and water contamination were established immediately after the earthquake and resulted in the abovementioned press releases about the safety of Japan by international organizations.

This damage to Japan's reputation through unfounded rumors was very costly for Japan, causing the suspension of exports in some cases. As a result, Japanese enterprises lost their edge in international competitiveness, and additionally, they faced very difficult problems in coping with the situation. In the future, to prevent "a secondary disaster" following in the wake of a natural disaster, it is important to secure the global economy and international trade and commerce from any unwarranted damage. In that respect, it is worthwhile to evaluate measures and develop an international cooperation system as a countermeasure in case such an emergency hits again in the future. Presently, Japan is proceeding with activities for recovery and reconstruction with great support from various countries/regions in the world. In order to express gratitude for such support, it will be one of the duties for Japan to promote sharing its experiences and the lessons learned, and take the lead in discussions to build a system of countermeasures for worldwide cooperation to deal with future emergencies.