

**Legislative Council  
of the  
Hong Kong Special Administrative Region**

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**Delegation of the  
Panel on Food Safety and Environmental  
Hygiene**

**Report on the duty visit to Japan  
in response to an invitation by  
the Ministry of Foreign Affairs of Japan**

**25 to 30 September 2011**

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## **Chapter 1 - Introduction**

1.1 A delegation of the Panel on Food Safety and Environmental Hygiene ("the Panel") of the Legislative Council visited Japan from 25 to 30 September 2011 in response to an invitation by the Ministry of Foreign Affairs ("MFA") of Japan to obtain a better understanding of the up-to-date situation in Japan after its earthquake in March 2011 and to exchange views with the relevant Japanese authorities responsible for food safety measures. This report presents the main findings and observations of the delegation.

### **Safety of food imported from Japan**

1.2 The Panel is tasked to monitor and examine Government policies and issues of public concern relating to food safety, environmental hygiene and agriculture and fisheries.

1.3 The earthquake and the subsequent tsunami which hit Japan on 11 March 2011 had damaged the Daiichi Nuclear Power Plant in the Fukushima Prefecture, leading to the release of radioactive substances in the environment. It was reported by the Japanese authorities that the release of these radioactive substances had contaminated certain foods in the prefectures in the vicinity of the Daiichi Nuclear Power Plant, including Fukushima, Ibaraki, Tochigi and Gunma.

1.4 On 23 March 2011, tests conducted by the Hong Kong Centre for Food Safety ("CFS") indicated that three vegetable samples imported from Chiba Prefecture of Japan had been contaminated with radioactive substances at such a level hazardous to human health. The Director of Food and Environmental Hygiene made an order with effect from noon on 24 March 2011 under section 78B of the Public Health and Municipal Services Ordinance (Cap. 132) to prohibit from importing into and supplying within Hong Kong the following food products from five prefectures of Japan, namely, Fukushima, Ibaraki, Tochigi, Gunma and Chiba ("the five prefectures") -

- (a) all fruits and vegetables;
- (b) all milk, milk beverages, dried milk; and

- (c) all chilled or frozen game, meat and poultry, all poultry eggs and all live, chilled or frozen aquatic products, unless accompanied by a certificate issued by the competent authority of Japan certifying that the radiation levels do not exceed the standards laid down by the Codex Alimentarius Commission in the Guideline Levels for Radionuclides in Foods Contaminated following a Nuclear or Radiological Emergency ("the Codex Guideline Levels").

1.5 In response to wide public concern over the safety of food products imported from Japan, the Panel took various actions. The Panel conducted a visit to the Airport Food Inspection Office at the Hong Kong International Airport on 8 April 2011 to observe demonstrations of radioactivity screening of food by hand-held survey meters and operation of Contamination Monitoring System. Pursuant to the visit, the Panel held a meeting on 17 May 2011 to follow up on the monitoring of radiative contamination of food products imported from Japan. Members had been advised that, among other measures, CFS would closely monitor the situation in Japan through close liaison with the Consulate-General of Japan in Hong Kong.

### **Invitation to visit Japan**

1.6 The Chairman of the Panel, Hon Tommy CHEUNG, received an invitation dated 18 July 2011 from MFA of Japan via the Consulate-General of Japan in Hong Kong for three members of the Panel including its Chairman to visit Japan under a programme sponsored by MFA. The purpose of the visit was to enable Panel members to obtain a better understanding of the up-to-date situation in Japan following its earthquake in March 2011 and to exchange views with the relevant Japanese authorities. The visit was expected to last for one week. Apart from Tokyo, the Panel might propose one other place in Japan to be included in the visit. The Japanese Government would cover the costs of airfare, accommodation, meals, local transport and insurance for the three Panel members.

1.7 The Panel decided at its special meeting on 1 August 2011 to accept the invitation to conduct a duty visit to Japan in late September 2011 to obtain first-hand information on the latest situation in Japan following its earthquake in March 2011. The duty visit aims to study the

following areas -

- (a) the food safety measures taken by the relevant authorities in Japan in response to the Daiichi Nuclear Power Plant incident;
- (b) the surveillance and testing of food in particular on the radiation levels for export from Japan and the resources deployed for the purpose;
- (c) the mechanism adopted by the Japanese authorities for certifying that the radiation levels of food exported from five prefectures of Japan to Hong Kong do not exceed the standards laid down by the Codex Guideline Levels; and
- (d) the impact of the Daiichi Nuclear Power Plant incident on food exporters and the assistance provided by the Japanese Government.

1.8 Apart from Tokyo, the Panel decided to visit Kumamoto and Miyazaki in Japan. Kumamoto and Miyazaki are the two cities in Japan with the greatest volume of exports of tomatoes and beef to Hong Kong respectively.

1.9 The House Committee endorsed by circulation of paper on 19 September 2011 the conduct by the Panel of a duty visit to Japan in response to the invitation.

### **The delegation**

1.10 The delegation comprises three members of the Panel, namely, Hon Tommy CHEUNG, Chairman of the Panel, Hon Fred LI and Hon WONG Yuk-man.

1.11 Clerk to the Panel, Mrs Sharon TONG, accompanied the delegation on the visit.

## **Visit programme**

1.12 The delegation visited Tokyo, Kumamoto and Miyazaki from 25 to 30 September 2011. During the visit, the delegation met with officials from the national and prefectural governments and representatives of relevant organizations. The delegation also visited food safety inspection centres in the three cities and a beef processing plant in Miyazaki.

1.13 The visit programme is in **Appendix I**. A list of the government officials and representatives of relevant organizations with whom the delegation had met is in **Appendix II**.

## **Chapter 2 - Food safety measures taken by the Japanese authorities in response to the Daiichi Nuclear Power Plant incident and impact of the incident on food exports**

2.1 The delegation called on Mr Joe NAKANO, Parliamentary Vice-Minister for Foreign Affairs to gain an overview of actions and food safety measures taken by the Japanese authorities in response to the Daiichi Nuclear Power Plant incident. The delegation received briefings by officials from MFA, the Ministry of Health, Labour and Welfare ("MHLW"), the Ministry of Agriculture, Forestry and Fisheries ("MAFF"), and the Food Safety Commission of the Cabinet Office ("FSC"), on their respective roles in undertaking food safety measures following the incident. The delegation also exchanged views with officials from the Kumamoto Prefectural Government, and Mr Shunji KOHNO, Governor of the Miyazaki Prefecture, and his officers.

### **Overview of actions and food safety measures taken**

2.2 The delegation noted that at 2:46 pm (Japan time) on 11 March 2011, a severe earthquake of magnitude 9.0 occurred at the coast off the Miyagi Prefecture of Japan. The earthquake generated a tsunami resulting in serious damage and casualties in the north-eastern part of Japan. Due to the disaster, the Tokyo Electric Power Company's ("TEPCO") Daiichi Nuclear Power Plant in Fukushima had several accidents and radiation higher than usual levels was detected in surrounding environment. The Japanese Government immediately established the Nuclear Emergency Response Headquarters in Tokyo and the Local Nuclear Emergency Response Headquarters in the disaster area according to the Special Act of Emergency Preparedness for Nuclear Disaster to respond to the damage of the Daiichi Nuclear Power Plant. The Prime Minister of Japan is the Director-General of the Nuclear Emergency Response Headquarters.

2.3 In response to the Daiichi Nuclear Power Plant incident, the Japanese Government had taken the following actions -

- (a) on 17 March 2011, the provisional regulation values ("PRVs") were set for radioactive substances in foods under the Food Sanitation Act with reference to the index levels designated by the Nuclear Safety Commission;

- (b) FSC was consulted on 20 March 2011 on the scientific evaluation of the effects of radioactive substances in foods on health;
- (c) on 4 April 2011, the Food Sanitation Commission of the Pharmaceutical Affairs and Food Sanitation Council announced its remarks that under the present situation, the PRVs should be maintained in the light of the Emergency Report on Radioactive Nuclides in Foods issued by FSC;
- (d) in the light of the Nuclear Emergency Response Headquarters' concepts on the establishment and cancellation of the restrictions of the distribution and consumption of food concerned, an announcement was made on 4 April 2011 on prefectural governments' inspection plans with regard to PRVs of radioactive substances in foods;
- (e) in view of a significant level of radioactive iodine detected in fishery products, PRVs of radioactive iodine in fishery products were set on 5 April 2011 upon the advice of the Nuclear Safety Commission;
- (f) on 6 April 2011, FSC was tasked to evaluate the health effects on food related to radioactive iodine in fishery products;
- (g) a Task Force on the Countermeasures against Radioactive Materials was set up on 8 April 2011 in respect of PRVs related to radioactive iodine in fishery products;
- (h) relevant prefectures were notified of the MHLW's report on the status of formulation and implementation of survey plans on radioactive substances in foods and tap water on 28 April 2011;
- (i) the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods Concerned Applies" were revised on 27 June 2011 ("the revised Concepts");

- (j) on 5 July 2011, the Ministry of Economy, Trade and Industry issued a report entitled "Japan's challenges concerning the domestic and international implications of TEPCO's Fukushima Daiichi Nuclear Power Station"; and
- (k) a report entitled "Measures against Beef which Exceeds the Provisional Regulation Values of Radioactive Cesium by the Government to Restore Safety of Beef and Other Food" was issued by the Government of Japan on 29 August 2011.

2.4 The delegation notes that according to the World Health Organization's assessment, the Government of Japan's actions in response to the Daiichi Nuclear Power Plant incident are in line with existing public health recommendations for protection against radiation exposure. The structure of the Government of Japan is in **Appendix III**.

### **Provisional regulation values for radioactive substances in food**

2.5 Following the Daiichi Nuclear Power Plant incident, PRVs for radioactive substances in food were set by MHLW. MHLW was established in 2001 by merging the Ministry of Health and Welfare and the Ministry of Labour. Its scope of services includes medical services, public health, employing security, human resources development, child care, long-term care, welfare and pension systems.

2.6 Established under MHLW, the Department of Food Safety ("DFS") of the Pharmaceutical and Food Safety Bureau is responsible for the administration of food safety. The major functions of DFS include -

- (a) preventing food poisoning and developing regulations and standards for food additives and pesticide residues;
- (b) enforcing hygienic standards for food producing facilities;
- (c) carrying out inspections and giving guidance for ensuring food safety in the market through the quarantine stations, together with the local governments; and
- (d) examining the safety of genetically modified food.

2.7 There are three divisions under DFS with specific duties, namely -

- (a) Policy Planning and Communication Division - being responsible for general coordination and risk communication. Its Office of Port Health Administration deals with all quarantine matters and inspection of imported food;
- (b) Standards and Evaluation Division - being responsible for establishment of specifications and standards for food, food additives, pesticide residues, animal drug residues, food containers and food labelling. Its Office of Health Policy on Newly Developed Food sets the labelling standards and deals with safety assessment of genetically modified food; and
- (c) Inspection and Safety Division - being responsible for food inspection, health risk management, safety measures for poultry and livestock meat, and measures for environmental contamination. Its Office of Import Food Safety deals with assurance of import food safety.

2.8 The management of food safety in Japan is based on the Food Safety Basic Law, the Food Sanitation Act, the Abattoir Law, the Poultry Slaughtering Business Control and Poultry Inspection Law, and other related laws. The approach of food safety management consists of three components, namely, risk assessment, risk management and risk communications.

2.9 According to Mr MasahiKo YOKOTA of MHLW, in response to the leakage of radioactive substances, MHLW adopted the "Indices for Food and Beverage Intake Restriction" designated by the Nuclear Safety Commission of Japan as PRVs in accordance with the Food Sanitation Act on 17 March 2011. Any foods which exceed these levels are regulated to ensure that they are not supplied to the public for consumption. Local governments have been duly notified of MHLW's decision on the same date.

2.10 Given that a significant level of radioactive iodine was detected in fishery products, PRVs for radioactive iodine in fishery products were set on 5 April 2011 upon the Nuclear Safety Commission's advice.

2.11 A table on PRVs of radioactive substances in foods set in accordance with the food Sanitation Act as compared with the standards laid down by the Codex Guideline Levels is given below -

Radioactive substance	PRVs (Bq <sup>1</sup> /kg) in Japan		Codex Guideline Levels (Bq/kg)	
Radioactive iodine (iodine - 131)	Drinking water <sup>2</sup>	300	Foods (including infant foods)	100
	Milk, dairy products <sup>2</sup>			
	Vegetables (except root vegetables, potatoes)	2 000		
	Seafood			
Radioactive cesium (cesium -131, cesium - 137)	Drinking water	200	Foods (including infant foods)	1 000
	Milk, dairy products			
	Vegetables	500		
	Grains			
	Meat, eggs, fish, etc.			
Uranium	Infant foods	20	Foods (including infant foods)	100
	Drinking water			
	Milk, dairy products			
	Vegetables	100		
	Grains			
	Meat, eggs, fish, etc.			
Plutonium, and alpha nuclides of transuranic elements	Infant foods	1	Infant foods	1
	Drinking water			
	Milk, dairy products			
	Vegetables	10	Foods other than infant foods	10
	Grains			
	Meat, eggs, fish, etc.			

2.12 As far as generic radiological protection of the public is concerned, when radionuclide levels in food do not exceed the Codex Guideline Levels, the food should be considered as safe to human consumption. During the Daiichi Nuclear Power Plant incident,

<sup>1</sup> Radiation is released when a certain nucleus changes (disintegrates) into another nucleus. 1 Becquerel ("Bq") is the amount of radiation released by one nucleus in one second when it disintegrates; the greater the number of Bq, the greater the number of nuclei disintegrating.

<sup>2</sup> The levels for infants have been set at 100 Bq/kg.

radioactive substances, including iodine-131, cesium-134 and cesium-137, have been released. The main radionuclides posing health risk are radioactive iodine and radioactive cesium. Radioactive substances release radiation and transform into different nuclei, and are ultimately devoid of any radioactive content. The amount of time required for the number of nuclei of the original radioactive substances to be reduced by half differs according to the type of substance. The physical half-life for iodine-131, cesium-134 and cesium-137 is 8.04 days, 2.1 years and 30.17 years respectively.

2.13 On the other hand, radioactive substances taken into the body through ingestion of food or inhalation enter the blood and are discharged from the body in such forms as exhalation, perspiration, urine and stool. The amount of time required for radioactive substances to be reduced to half in the body through this process is called the biological half-life. The biological half-life for iodine-131 is approximately 11 days for infants, 23 days for five years old children and 80 days for adults. For cesium-137, it is approximately nine days for one year old infants, 38 days for children up to nine years old, 70 days for adults up to 30 years of age, and 90 days for adults up to 50 years of age.

2.14 The delegation notes that the local governments play an important role in implementing risk management. The health centres established under the health authorities in each jurisdiction are responsible for issuing licences to food businesses within the jurisdiction concerned, inspecting food establishments, and conducting tests on food. MHLW collates the testing results on radioactive substances in food conducted by prefectural governments and publishes the testing results on its website.

2.15 Mr MasahiKo YOKOTA of MHLW informed the delegation that PRVs would be reviewed in 2012. MHLW hopes that the levels of PRVs could be revised downward having regard to the updated situation.

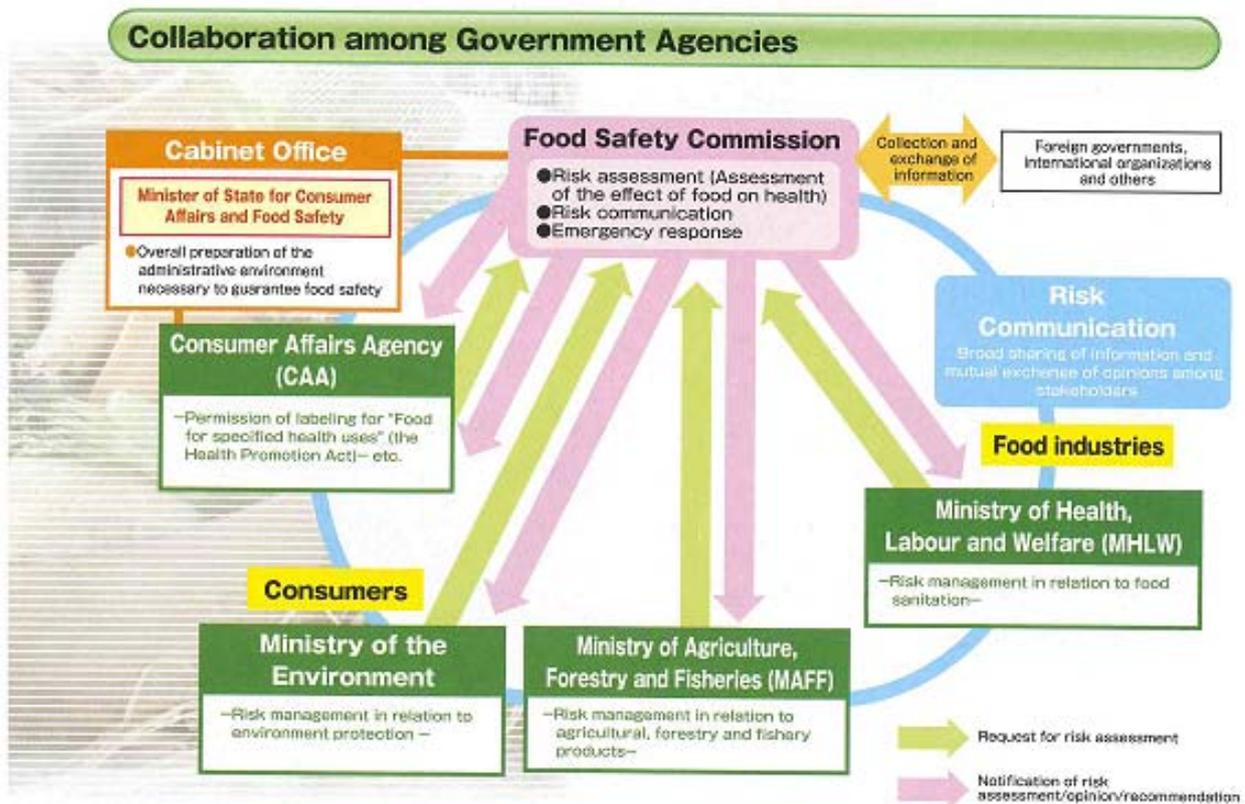
### **Risk assessment on radioactive nuclides in foods**

2.16 The delegation was informed that PRVs set by MHLW on 17 March 2011 were adopted on an urgent basis without an assessment of the effect of food on health. Therefore, on 20 March 2011, MHLW requested FSC to conduct an assessment according to the Food Safety Basic Act.

2.17 Established in July 2003 under the Cabinet Office, FSC undertakes risk assessment, and is independent from Ministries or agencies responsible for food risk management such as MHLW, MAFF and Consumer Affairs Agency<sup>3</sup>. The main roles of FSC include -

- (a) conducting risk assessment on food in a scientific, independent and fair manner, and making recommendations to relevant Ministries based on the risk assessment results;
- (b) implementing risk communication among stakeholders, such as consumers and food-related business operators; and
- (c) responding to food-borne accidents and emergencies.

2.18 The following diagram illustrates FSC's collaboration among Ministries and government agencies.



<sup>3</sup> Established under the Minister of State for Consumer Affairs on 1 September 2009, the Consumer Affairs Agency is responsible for the administration of consumer affairs. Its responsibilities include the planning and coordination of consumer-related policies and enforcement of laws and regulations relating to the protection of consumers' safety (including food labelling).

2.19 FSC comprises seven Commissioners who are appointed on the basis of their profound knowledge on food safety. 14 Expert Committees are set up under FSC with approximately 250 experts serving on these Committees.

2.20 Ms Mina KOJIMA of FSC informed the delegation that upon receipt of MHLW's request, FSC held five urgent meetings between 22 and 29 March 2011 with the participation of the seven Commissioners and over 10 Expert Committee members in the field of chemicals and contaminants, food additives and pesticides, as well as academic advisors on radiology, public health and pharmaceutical science. On the basis of the data provided by MHLW and the emergency nature of the study, FSC focussed its deliberations on the impact of radioactive iodine and radioactive cesium on health. FSC submitted its Emergency Report on Radioactive Nuclides in Foods to MHLW on 29 March 2011.

2.21 In its Emergency Report, FSC has, among others, made the following conclusions -

- (a) regarding radioactive iodine (iodine-131), 50 mSv<sup>4</sup> equivalent thyroid dose (corresponds to 2 mSv effective dose) per year is considered to be sufficiently safe to prevent radiation exposure from food; and
- (b) as regards radioactive cesium (cesium-134 and cesium-137), no evidence has been found to suggest that it is inappropriate to conduct risk management in emergency situations based on the level for annual effective dose of 10 mSv set by the International Commission on Radiological Protection in its Publication 63. Given the above, the annual effective dose of 5 mSv can be considered as highly conservative value in securing human health.

2.22 At its meeting on 14 April 2011, FSC decided to set up a "Working Group for an assessment of the effect of radioactive nuclides in

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<sup>4</sup> Radiation dose absorbed by human body are expressed in units of Sievert ("Sv"). On average, a person is exposed to approximately 3 mSv per year (1 mSv = 1/1000 Sv) of which, 80% (2.4 mSv) is due to naturally occurring sources (i.e. background radiation), 19.6% (almost 0.6 mSv) is due to the medical use of radiation and the remaining 0.4% (around 0.01 mSv) is due to other sources of human-made radiation. When 1 kg of food containing 500 Bq/kg of radioactive iodine-131 is consumed, the effect on the human body is 0.0048 mSv. When 1 kg of food containing radioactive cesium-137 is consumed, the effect on the human body is 0.0065 mSv.

food on health" to continue with its assessment. Between 21 April and 26 July 2011, the Working Group conducted nine meetings with experts on radioactive substances holding in-depth and meticulous deliberations on the matter. The Working Group concluded the draft Risk Assessment Report on Radioactive Nuclides in Foods at its ninth meeting. During the public consultation period from 29 July to 27 August 2011, over 3 000 submissions were received. The views collected are considered by the Working Group to determine whether any adjustments should be made to its draft assessment report.

2.23 The delegation subsequently notes that the finalized Risk Assessment Report on Radioactive Nuclides in Foods was published on the FSC website on 27 October 2011.

### **Inspection planning and restriction from distribution**

2.24 The delegation notes that the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction of Distribution and/or Consumption of Foods Concerned Applies" issued by MHLW on 4 April 2011, are compiled based on the findings obtained. Since then, while the level of radioactive iodine detected in foods has declined, radioactive cesium exceeding PRVs values has been detected in certain foods. This has led the Government of Japan to review the concepts. In the light of the nature of radioactive substances released and the status in which they have been detected in food, the revised Concepts (which were issued by MHLW on 27 June 2011) aim to change the focus from emphasizing on foods susceptible to the fallout of radioactive iodine emitted immediately after the Daiichi Nuclear Power Plant incident to that based on the impact of radioactive cesium and the actual situations of public consumption of foods.

2.25 The testing of radioactive substances in food is conducted by prefectural governments based on the "Inspection plans of the local governments" issued by MHLW in accordance with the revised Concepts. In order to ascertain the spread of radioactive contamination, local governments divide their prefectural areas into appropriate zones, based on the actual situations of production, the area of captured fish and the labelling of origins. Samples are collected in a multiple number of municipalities per zone concerned. Inspections are conducted at designated inspection areas (normally near the farms or fishing ports) on a regular basis, about once a week in principle. Inspections are

strengthened when radioactive substances exceeding or close to PRVs are detected. Those municipalities where radioactive substances exceeding PRVs have been detected in foods are given priority for inspection, taking into consideration the concentration of cesium in soil and the results of environmental monitoring.

2.26 The delegation was assured that foods that fail to meet PRVs are restricted from distribution. When food with radiation levels exceeding PRVs is found to have been distributed in a region, a "shipment restriction" is implemented in order to prevent internal exposure to radiation through the consumption of radiation contaminated food. In accordance with the Act on Special Measures Concerning Nuclear Emergency Preparedness, the Director-General of the Nuclear Emergency Response Headquarters (i.e. the Prime Minister of Japan) will issue an order to the governor(s) of the concerned prefecture(s) who will then ask the relevant business operator(s) to refrain from distributing such products. If and when, for example, an extremely high-level of radioactive materials is detected in produce, the Director-General of the Nuclear Emergency Response Headquarters directs the governor(s) of the prefecture(s) concerned to restrict their citizens from consuming the affected food products. Such information is posted onto the websites of the prefectural government(s) and MAFF.

2.27 The lifting of "shipment restrictions" is decided by the Director-General of the Nuclear Emergency Response Headquarters when the required conditions set out in the revised Concepts are met and taking into consideration the situation at the Daiichi Nuclear Power Plant. For shipment restrictions imposed based on the detected amount of radioactive iodine, weekly inspection is conducted in multiple municipalities in each area. Restrictions are lifted if radiation levels are below PRVs for three consecutive weeks. As for shipment restrictions imposed based on the detected amount of radioactive cesium, at least three locations are inspected in each municipality in the relevant area. Restrictions are lifted if radiation levels are found to be below PRVs in all inspections for the past one month.

## **Safety of food**

2.28 MAFF is responsible for the administration related to agricultural, forestry and fishery products (covering from production to consumption) and rural development and promotion of the welfare of rural inhabitants.

Regarding food safety, MAFF undertakes the risk management of agricultural, forestry and fishery products.

2.29 Tests on radioactive substances in agricultural and fishery products for public consumption are conducted by local government authorities on a daily basis. Food items that fail to meet PRVs are prohibited from distribution for consumption. They are recalled if found in the market.

2.30 The Fisheries Agency of MAFF, in collaboration with the relevant prefectural governments, conducts samplings to measure the levels of radioactive substances in fishery products. When a result indicates a level exceeding PRVs, related fishing activities are suspended. Such suspension can only be lifted after all the sampling measurements at more than three sampling spots in the last one month are below PRVs. Through such restrictive measures, no fishery products with radioactive substances exceeding PRVs are distributed into the market.

2.31 Regarding the concern about the traceability of fresh agricultural products contaminated by radioactive substances, MAFF advised the delegation that under the law in Japan concerning standardization and proper labelling of agricultural products, producers are required to indicate the place of origin of domestically produced products by prefecture, municipality, or name of place. As for fresh fishery products, the name of the sea area where the product originated from must be labelled on the packages of fresh fishery products in accordance with the fresh food quality labelling standards under the law. Any contravention of the labelling requirement is subject to measures, such as instruction and disclosure, or criminal penalty in accordance with the relevant law. The Consumer Affairs Agency has tightened control on false claim of place-of-origin in collaboration with MAFF and the prefectural governments.

2.32 According to Mr Hiromi ISA of MAFF, intensive inspections have been conducted over a wide range of fishery samples, ranging from coastal species to migratory species and from surface species to deep water species. Inspections on radioactive substances in fishery products are conducted on a weekly basis at each major fishing port under the cooperation among prefectural governments, the Fisheries Agency of MAFF and fishery industries. Samples exceeding PRVs are detected only in the Fukushima Prefecture, except for Japanese sand lances which are also in the northern part of the Ibaraki Prefecture.

2.33 To ensure the safety of fishery products in the market, weekly exploratory operations are in principle conducted. Fishing operations resume only after the levels of radioactive substances detected remain below three times in a row. No fishing activities are currently conducted in the seawaters near the Daiichi Nuclear Power Plant in Fukushima, and therefore no fish from the sea in the vicinity of the Daiichi Nuclear Power Plant is available in the market.

2.34 The Ministry of Education, Culture, Sports, Science and Technology<sup>5</sup> ("MEXT") and TEPCO are conducting monitoring programmes to measure the levels of radioactive substances in seawaters and bottom sediment at over 100 sampling stations in the coastal and offshore areas in the vicinity of the Daiichi Nuclear Power Plant. The monitoring results of seawaters show a decreasing trend in the levels of radioactive substances. The results of seawaters monitoring at offshore of Miyagi, Fukushima and Ibaraki Prefectures for the period from 20 to 25 June 2011 showed that radioactive iodine and radioactive cesium were not detected (**Appendix IV**). The results are published on the website of MEXT for public information.

2.35 The delegation was advised that on 8 and 9 July 2011, radioactive cesium exceeding PRVs was detected in 11 heads of the cattle shipped from Minamisoma City of the Fukushima Prefecture. On 14 July 2011, cattle shipped from Asakawa Town in Fukushima Prefecture was found to have been fed rice straw containing a high concentration of radioactive cesium. Pursuant to the two incidents, all beef from the Fukushima, Miyagi, Iwate and Tochigi Prefectures was prohibited from distributing into the market until the products had been proven not exceeding PRVs. It was believed that rice straw left in paddy fields after the harvest was contaminated by radioactive nuclides from the Daiichi Nuclear Power Plant, and was fed to cattle. The Japanese Government immediately implemented cattle feeding management system and blanket examinations to ensure the safety of beef. In gist, each prefecture is required to ensure that contaminated rice straw is no longer used and is disposed of. Cattle farms that fed contaminated rice straw or cattle farms that are not conducting on-site inspection of contaminated rice straw are subject to blanket examinations. Cattle farms other than those being subject to blanket examinations must test at least one of the cows included in the first shipment.

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<sup>5</sup> Following the Daiichi Nuclear Power Incident, MEXT has taken up the responsibility to control the implementation of environmental monitoring and publicizing the results.

2.36 The restriction on the transport of cattle raised in the Miyagi Prefecture to other prefectures and slaughterhouses was temporarily lifted on 19 August 2011, while that in respect of cattle raised in the Fukushima, Iwate and Tochigi Prefectures was temporarily lifted on 25 August 2011. Results of radioactive cesium tests of beef in prefectures near the Fukushima Prefecture as at 21 September 2011 are in **Appendix V**.

2.37 As at 31 August 2011, the following food products from the Fukushima Prefecture were prohibited from distribution -

- (a) raw milk;
- (b) head-type and non-head type leafy vegetables (e.g. spinach and cabbage);
- (c) flower-head brassicas (e.g. broccoli, cauliflower);
- (d) turnip, log grown shiitake (outdoor grown), bamboo shoot and ume; and
- (e) Japanese sand lance, cherry salmon (excluding farmed fish) and Japanese dace.

Tea leaves from the Ibaraki, Tochigi, Chiba and Kanagawa Prefectures were also prohibited from distribution.

### **Monitoring of environmental radioactivity level**

2.38 Apart from foods, the Government of Japan and prefectural governments rigorously monitor the radionuclide levels in drinking water, air and soil.

2.39 According to MAFF, samples of tap water are tested every day. The radioactive iodine in drinking water at Fukushima City was high (as high as about 170 Bq/kg) after the Daiichi Nuclear Power Plant incident, but has dropped to under the detectable level since 10 April 2011. Radioactive cesium has not been detected in drinking water at Fukushima City even in the first instance. In Tokyo, the Tokyo Water Utility announced on 23 March 2011 that its residents should refrain from giving tap water to infants after detecting a level of radioactive iodine of

210 Bq/kg. The restriction was lifted on 24 March 2011. Since 27 March 2011, radioactive iodine and cesium have been under the detection level.

2.40 PRV for radioactive cesium in farm soil is set at 5 000 Bq/kg. As at 31 August 2011, of the 361 inspections of farm soil in the Fukushima Prefecture conducted, 40 inspections were found exceeding PRV, and no farm soil inspections exceeding PRV were detected in the Miyagi, Tochigi, Gumma, Ibaraki and Chiba Prefectures.

2.41 Atmospheric readings of radioactivity level are taken on a daily basis by prefectural government authorities. The data collected will be posted onto the MEXT website. The readings for Fukushima, Sendai and Iwaki, as well as Tokyo, Osaka and Sapporo as at 14 September 2011 are in **Appendices VI** and **VII** respectively. A chart showing radiation in daily life is in **Appendix VIII**.

## **Impact on export of foods and provision of assistance**

### Impact on exports

2.42 The delegation was informed of the negative impact on export of foods, pursuant to Daiichi Nuclear Power Plant incident. According to MAFF, the total export values of agricultural, forestry and fisheries products and processed foods ("AFF products") from Japan to all countries and places had dropped from 39.2 billion Yen (about HK\$392 million) in June 2010 to 38.3 billion Yen (about HK\$383 million) in June 2011, a decrease of 2.3%. During the same period, the total export values of AFF products from Japan to Hong Kong had dropped from 11.5 billion Yen (about HK\$115 million) to 9.6 billion Yen (about HK\$96 million), a substantial decrease of 16.5%.

2.43 Mr Joe NAKANO, Parliamentary Vice-Minister for Foreign Affairs, Mr Shunji KOHNO, Governor of the Miyazaki Prefecture, and Mr Yoshiaki BANDO of the Kumamoto Prefecture hope that with the safety measures in place, people's confidence in Japanese food would be restored, thus boosting the food exports.

### Financial assistance

2.44 According to MAFF, the Government of Japan enforced on 15 April 2011 the Act on Temporary Measures on Financial Support of Farmers, Forestry Workers and Fishery Workers Suffering from National Disaster, and provided low-interest loans to farmers, foresters and fishermen affected by the Great East Japan Earthquake. MAFF has also called upon financial institutions to continue providing finance and rescheduling of loans to victims in the agricultural, forestry and fisheries sectors.

2.45 On 22 April 2011, the Fukushima Prefectural Government and the Ministry of Economy, Trade and Industry reached an agreement in principle to establish a special support programme outside the ordinary financial assistance framework to help businesses hit by the Daiichi Nuclear Power Plant incident. A new loan programme, the Great East Japan Earthquake Recovery Special Loan ("Special Loan"), was launched on 23 May 2011 to assist the small and medium enterprises which were severely affected directly and indirectly by the earthquake, tsunami or the nuclear power plant incident. The features of the Special Loan include the increase in loan amount, enhanced measures to cut loan interest rates and extended repayment periods.

### Other support measures

2.46 The delegation was advised that to restore consumer confidence, meat distributing organizations provide funds for the purchase of beef from cows that may have been fed with rice straw with radiation levels exceeding PRVs and disposal of the beef. The Government of Japan reimburses storage fees for beef at distribution level produced in prefectures where shipping restrictions are imposed. In addition, the Government provides funding support to prefectural organizations for the purchase of beef subject to delayed shipment. For livestock farms in prefectures where contaminated rice straw was fed to cattle and where complete inspection of all cattle and feed lots were carried out, livestock organizations subsidize the payment of 50,000 Yen (about HK\$500) per head of cattle. Compensation for the fall in beef prices is provided by livestock organizations.

### **Certification on radiation levels**

2.47 The delegation notes the requirements imposed by countries and places importing food from Japan for certificates of the measurement of radioactive substances. Inspection institutes in Japan listed on the MAFF website provide the necessary certificates for particular consignment of foods.

2.48 According to Mr Yoshiaki BANDO of the Kumamoto Prefectural Government, testing on the agricultural and fishery products will be conducted upon requests by importing countries. Since 1 July 2011, germanium semiconductor detector has been used by the Kumamoto Pharmaceutical Inspection Centre to test the level of radioactive substances in food.

2.49 According to MAFF, as at September 2011, it is still under discussion with CFS on the certification of the radiation levels of food exported from the five prefectures of Japan to Hong Kong (paragraph 1.4(c) of Chapter 1 refers). The thinking is that the certificate on the radiation levels must be issued by a recognized inspection institute in Japan and endorsed by the Japanese authority, i.e. MAFF.



The delegation presented a souvenir to Mr Joe NAKANO, Parliamentary Vice-Minister for Foreign Affairs.

Hon Tommy CHEUNG, Chairman of the Panel on Food Safety and Environmental Hygiene, presented a souvenir to Mr Masahiko YOKOTA, Deputy Director, Standard and Evaluation Division, Department of Food Safety, Ministry of Health, Labour and Welfare.



The delegation discussed with representatives of the Ministry of Agriculture, Forestry and Fisheries the safety measures in respect of agricultural and fishery products.



The delegation was meeting with representatives of the Secretariat of the Food Safety Commission of Cabinet Office.

Hon Tommy CHEUNG, Chairman of the Panel on Food Safety and Environmental Hygiene, presented a souvenir to the representative of the Kumamoto Prefectural Government.



The delegation presented a souvenir to Mr Shunji KOHNO, Governor of the Miyazaki Prefecture.



The delegation took a photo after its visit to the National Diet of Japan.

## **Chapter 3 - Surveillance and testing of food in Japan**

3.1 To better understand the inspection and testing of food in Japan, the delegation visited the Wholesale Market Sanitary Inspection Station (Tsukiji) in Tokyo, the Kumamoto Pharmaceutical Inspection Centre, the JA Miyazaki Keizairen Farm Inspection Centre and a beef processing plant of Miyachiku Company Limited in Miyazaki.

### **Tokyo**

#### Wholesale Market Sanitary Inspection Station (Tsukiji)

##### *Roles and functions*

3.2 Established under the Public Health and Welfare Bureau of the Tokyo Metropolitan Government, the Wholesale Market Sanitary Inspection Station ("WMSIS") in Tsukiji is to ensure that food sold is safe and fit for consumption. According to Mr Ihei SUGITA of WMSIS, harmful food that may pose risk to human health should not be put on the market, should not be produced in the market and should not be taken out of the market. These are the principles of market sanitation. In monitoring food safety, it is necessary to ensure that foods are handled in a sanitary manner.

3.3 The delegation notes the various standards based on the Food Sanitation Law concerning, among others, food ingredients and the use of food additives. WMSIS conducts tests and inspections to ensure that the applicable standards are met. Such tests and inspections are the basis for scientific food administration. Should the results of tests confirm that the food concerned exceeds the statutory standards, punitive actions may be taken against the relevant food businesses, such as the prohibition of the sale of the food. WMSIS also compiles inspection and research data collected during daily monitoring and test/inspection activities for review of operations and improvement of technical standards. At the end of each fiscal year, WMSIS holds a "research presentation meeting" at which the results of thematic research activities are reported. Such research results are mainly used for the improvement of voluntary sanitation control by food businesses.

3.4 To ensure food safety at wholesale markets, it is necessary for those who handle food directly and the operators of food businesses to acquire the knowledge of sanitation and practices accordingly. To this end, WMSIS provides food sanitation training to food business operators in the markets and related associations, and promote the awareness of consumers on food safety through "food safety consultation services" at market festivals and other events. WMSIS also takes in trainees from other local governments, thereby contributing to the enhancement of laboratory skills and expertise on management of wholesale markets.

#### *Inspection and testing*

3.5 During early morning inspection, inspectors check the temperature in fishery products auction places in wholesale markets, the handling of the products and their labelling. Inspectors discuss monitoring points of the day based on the reports of early morning inspections. Samples of food products are taken for biological testing and chemical examination.

3.6 In the fiscal year of 2010, 164 267 inspections and 58 175 tests were conducted by WMSIS (covering 10 wholesale markets in Tokyo). Of the tests conducted, 29 840 and 28 335 were for biological and physicochemical examination respectively.

3.7 The delegation was advised by Mr Ihei SUGITA of WMSIS that radiation levels of food products are tested near the farms or at fishing ports and they are delivered to the market when the standards are met. It is hoped that the "double checking rules" (i.e. checking near the farm or at fishing ports and the wholesale market) could be passed by the National Diet of Japan as soon as possible.

3.8 A typical day at a sanitary inspection station is in **Appendix IX**.

### **Kumamoto Prefecture**

#### Kumamoto Pharmaceutical Inspection Centre

3.9 The Kumamoto Pharmaceutical Inspection Centre ("Centre"), an inspection centre listed on the MAFF website, is established by the Kumamoto Prefecture Pharmacists Association. The Centre received

subsidy from the Kumamoto Prefectural Government when it was first found, and is now mainly financed by the fees on tests conducted.

3.10 According to Mr Yohichi FUJIMOTO of the Centre, the Centre conducts qualitative analysis of sea and river water, drinking water, and agricultural and fishery products, including tests on bacterial, food additives, residual pesticides and harmful chemicals in food. With the use of germanium semiconductor detector, which was installed on 1 July 2011, the Centre also conducts tests on radioactive substances (iodine-131, cesium-134 and cesium-137) in agricultural and fishery products after the Daiichi Nuclear Power Plant incident. If the authority in other countries or places requires a certificate on the levels of radioactive substances in agricultural and fishery products, the exporter concerned will pay for the testing fee which is about 15,000 Yen (about HK\$150). It is hoped that export of food products from the Kumamoto Prefecture could be boosted when the confidence in food safety is restored.

## **Miyazaki Prefecture**

### Miyachiku Company Limited

3.11 Miyachiku Company Limited ("the Company") is the major corporation in the production of beef in the Miyazaki Prefecture. Its annual sales of beef amounted to about 400 000 heads of cattle in 2010. Cattle awaiting slaughtering is housed in a depot in the processing plant in Miyazaki. Since 1994, the Company has been exporting beef to Hong Kong.

3.12 According to Mr Osamu HATANKA of the Company, government inspection of the plant is conducted on a daily basis and surprised checks are done regularly. Testing of bacterial and pesticides and simple testing of radioactive cesium in beef are conducted in the plant, while samples of beef are sent to the Kumamoto Pharmaceutical Inspection Centre for the testing of radioactive iodine and double checking of radioactive cesium. Since 1 September 2011, the Company has adopted a complete check on radioactive cesium in all beef.

3.13 The delegation was invited to tour around the beef processing plant and the beef inspection station in the plant to observe the testing procedures. The delegation was impressed by the stringent sanitation standards adopted and safety precautions taken.

#### JA Miyazaki Keizairen Farm Inspection Centre

3.14 The JA Miyazaki Keizairen Farm Inspection Centre, which is independent from the Miyazaki Prefectural Government, conducts analytical tests on farm soil and agricultural products for its members. It is also a clinic for farm animals. According to Mr Koyo HIDAKA of the Farm Inspection Centre, the Centre would conduct tests on radioactive substances when the relevant equipment arrived in late November 2011. As at September 2011, the Farm Inspection Centre only conducted simple testing and was not in a position to issue health certificates for export of agricultural products.



The delegation visited the Wholesale Market Sanitation Inspection Station (Tsukiji).

The delegation observed the testing on fishery product at the Wholesale Market Sanitation Inspection Station (Tsukiji).



The delegation observed the testing of agricultural products at the Kumamoto Pharmaceutical Inspection Centre.



The delegation observed the equipment for detection of radioactive substances in food products at the Kumamoto Pharmaceutical Inspection Centre.

A group photo taken after the visit to a beef processing plant in Miyazaki.



The delegation was briefed on the inspection of beef for local consumption and export at a beef processing plant in Miyazaki.



Hon Tommy CHEUNG,  
Chairman of the Panel on Food  
Safety and Environmental  
Hygiene, presented a souvenir  
to Mr Koyo HIDAKA,  
Director of the JA Miyazaki  
Keizairen Farm Inspection  
Centre.

## **Chapter 4 - Observations and conclusions**

4.1 Having received briefings and exchanged views with various government officials and representatives of relevant organizations, and visited inspection centres in Tokyo, Kumamoto and Miyazaki, the delegation has come up with a number of observations and conclusions.

### **Observations**

4.2 The delegation notes that the Japanese authorities have taken swift actions and measures in respect of food safety in response to the Daiichi Nuclear Power Plant incident. Stringent regulations and measures have been implemented to ensure that radiation contaminated food products are prohibited from supplying within Japan and exporting to other countries and places. Food items that fail to meet PRVs are restricted from distribution. When food with radiation levels exceeding PRVs is found to have been distributed in a region, a "shipment restriction" is issued. The lifting of "shipment restrictions" is decided by the Prime Minister of Japan, as Director-General of the Nuclear Emergency Response Headquarters, and will only be made when the required conditions are met.

4.3 The delegation observes that radiation levels of agricultural and fishery products are tested near the farms or at fishing ports, and they are delivered to the market when the standards are met. The delegation hopes that the "double checking rules" (i.e. checking both near the farms or at fishing ports and the wholesale market) could be passed by the National Diet of Japan as soon as possible to further enhance public confidence in safety of food.

4.4 The delegation is impressed by the concerted efforts made by all levels of the Japanese Government in the monitoring and surveillance of food safety and environmental radiation levels.

4.5 The delegation also notes the World Health Organization's assessment that the Government of Japan's recent actions in response to the Daiichi Nuclear Power Plant incident are in line with existing public health recommendations for protection against radiation exposure.

4.6 Regarding the mechanism for the certification of the radiation levels of food exported from the five prefectures of Japan to Hong Kong, the delegation considers it important that the mechanism must be thoroughly worked out and effectively implemented. Once an imported food item from Japan is found to be contaminated with radioactive substance, the confidence of Hong Kong people in Japanese food will be destroyed.

### **Conclusions**

4.7 The delegation considers the visit very useful as it enables delegates to better understand the up-to-date situation in Japan following its earthquake in March 2011 and the sanitation inspection procedures for fresh food for local consumption and export. The visit is also fruitful for delegates to exchange views with government officials and representatives of relevant organizations on food safety measures taken in response to the Daiichi Nuclear Power Plant incident. Their sharing of the Japanese experience has deepened the delegation's understanding of the effectiveness of the various measures.

4.8 The delegation takes the view that the measures taken by the Government of Japan following the Daiichi Nuclear Power Plant incident are in the right direction to ensure the safety of food.

## **Acknowledgements**

The delegation wishes to thank MFA for the invitation to visit Japan and Mr Joe NAKANO, Parliamentary Vice-Minister for Foreign Affairs, for the exchange of views with delegates. The delegation also wishes to record its appreciation to the officials concerned of MFA, MHLW, MAFF, FSC, the Kumamoto Prefectural Government and Miyazaki Prefectural Government, and representatives of other organizations for their detailed briefings and useful exchange of views and information with the delegation.

2. In addition, the delegation wishes to thank the Consul General of Japan in Hong Kong for coordinating a very fruitful visit programme and making preparation for the visit.

## Panel on Food Safety and Environmental Hygiene

### Programme of the overseas duty visit from 25 to 30 September 2011

<b>25 September 2011 (Sunday)</b>	
Evening	Arrival in Tokyo
<b>26 September 2011 (Monday)</b>	
Morning	Briefing by the Ministry of Foreign Affairs
	Meeting with Mr Joe NAKANO, Parliamentary Vice-Minister for Foreign Affairs
Afternoon	Meeting with the representatives of the Ministry of Health, Labour and Welfare
	Visit to the National Diet of Japan
<b>27 September 2011 (Tuesday)</b>	
Morning	Visit to the Tsukiji Market
	Visit to the Wholesale Market Sanitation Inspection Station (Tsukiji)
	Meeting with the representatives of the Ministry of Agriculture, Forestry and Fisheries
Afternoon	Meeting with the representatives of the Food Safety Commission of the Cabinet Office
Late afternoon	Departure for Kumamoto

<b>28 September 2011 (Wednesday)</b>	
Morning	Meeting with the Kumamoto Prefectural Government officials
Afternoon	Visit to the Kumamoto Pharmaceutical Inspection Centre (for Agricultural Product Exports)
Late afternoon	Departure for Miyazaki
	Exchange of views with Mr Shunji KOHNO, the Governor of the Miyazaki Prefecture and his officers
<b>29 September 2011 (Thursday)</b>	
Morning	Visit to a beef processing plant in Miyazaki (Safety Inspection Station for Beef)
Afternoon	Visit to Miyazaki Keizairen Farm Inspection Centre
Late afternoon	Departure for Fukuoka
<b>30 September 2011 (Friday)</b>	
Morning	Departure for Hong Kong

**List of government officials and representatives of other organizations with whom the delegation met in Japan**

**Ministry of Foreign Affairs**

Mr Joe NANAKNO  
Parliamentary Vice-Minister for Foreign Affairs

Mr Takashi HAMADA  
Director  
Japan-China Economic Affairs Division  
Asian and Oceanian Affairs Bureau

Ms Ikuyo MURASHIMA  
Deputy Director  
Japan-China Economic Affairs Division  
Asian and Oceanian Affairs Bureau

Mr Daisuke FUKUSHIMA  
Japan-China Economic Affairs Division  
Asian and Oceanian Affairs Bureau

Mr Toshiro IJIMA  
Director  
Economic Policy Division  
Economic Affairs Bureau

Mr Shinichin SAIDA  
Director  
International Trade Division  
Economic Affairs Bureau

**Ministry of Health, Labour and Welfare**

Mr Masahiko YOKOTA  
Deputy Director  
Standard and Evaluation Division  
Department of Food Safety  
Pharmaceutical and Food Safety Bureau

**Ministry of Agriculture, Forestry and Fisheries**

Mr Hiromi ISA  
Director  
Fisheries Products Trade Office  
Fisheries Agency of Japan

Ms Miho WAZAWA  
Deputy Director  
Fisheries Products Trade Office  
Fisheries Agency of Japan

Mr Hiroshi KUROGI  
Deputy Director  
Export Promotion Division  
Food Industry Affairs Bureau

Ms Masae HASEGAWA  
Section Chief  
Export Promotion Division  
Food Industry Affairs Bureau

Mr Masayoshi KINOSHITA  
Deputy Director  
Meat and Egg Division  
Agricultural Production Bureau

Mr Yuichi IMASAKI  
Deputy Director  
Meat and Egg Division  
Agricultural Production Bureau

Mr Shingi KOTOU  
Deputy Director  
International Economic Affairs Division  
The Minister's Secretariat

Mr Hirofumi DEGAWA  
Deputy Director  
International Economic Affairs Division  
The Minister's Secretariat

**Food Safety Commission of the Cabinet Office**

Ms Masako KURIMOTO, DVM  
Director General  
Food Safety Commission Secretariat

Ms Mina KOJIMA, DVM  
Deputy Director  
Information and Emergency Response Division  
Food Safety Commission Secretariat

Ms Naoko HAYASHI  
Section Chief  
Information and Emergency Response Division  
Food Safety Commission Secretariat

Ms Junko KUBOTA  
Technical Assistant  
Information and Emergency Response Division  
Food Safety Commission Secretariat

**Wholesale Market Sanitation Inspection Station (Tsukiji)**

Mr Ihei SUGITA  
Management and Administration Office  
Tsukiji  
Tokyo

**Kumamoto Prefectural Government**

Mr Shingo YAMAUCHI  
Director  
International Affairs Division  
Kumamoto Prefecture

Mr Jun FUJIYOSHI  
Counsellor  
International Affairs Division  
Kumamoto Prefecture

Mr Yoshiaki BANDO  
Director  
Distribution Planning Division  
Management Bureau  
Department of Agriculture, Forestry and Fisheries  
Kumamoto Prefecture

**Kumamoto Pharmaceutical Inspection Centre  
The Kumamoto Prefecture Pharmacists Association**

Mr Yohichi FUJIMOTO  
Director

Ms Asami OISHI  
Section In-charge  
Inspection Section

**Miyazaki Prefectural Government**

Mr Shunji KOHNO  
Governor  
Miyazaki Prefecture

Mr Koji MAKIMOTO  
Vice-Governor  
Miyazaki Prefecture

Mr Nobuo OSHIKAWA  
Deputy Director  
Department of Agricultural Administration and Fisheries  
Miyazaki Prefecture

**Miyachiku Co., Ltd. (in Miyazaki)**

Mr Osamu HATANAKA  
Senior Director

Mr Mineo MIYAMOTO  
Manager  
Miyazaki Beef Sales Section

Ms Kazumi Nagatomo  
Senior Executive Vice President

Mr Katsuhiko IDE  
Senior Vice President

Mr Masatoshi KUROKI  
General Manager and  
Sales Director, Marketing Division

Mr Koji KANDA  
Assistant Chief of Sales Section  
Miyazaki Beef Sales Department

Mr Shigetaka FUKUJU  
Chief of Production Section I  
Miyazaki Plant

Mr Shuichiro NAGATA  
Chief of Production Section II  
Miyazaki Plant

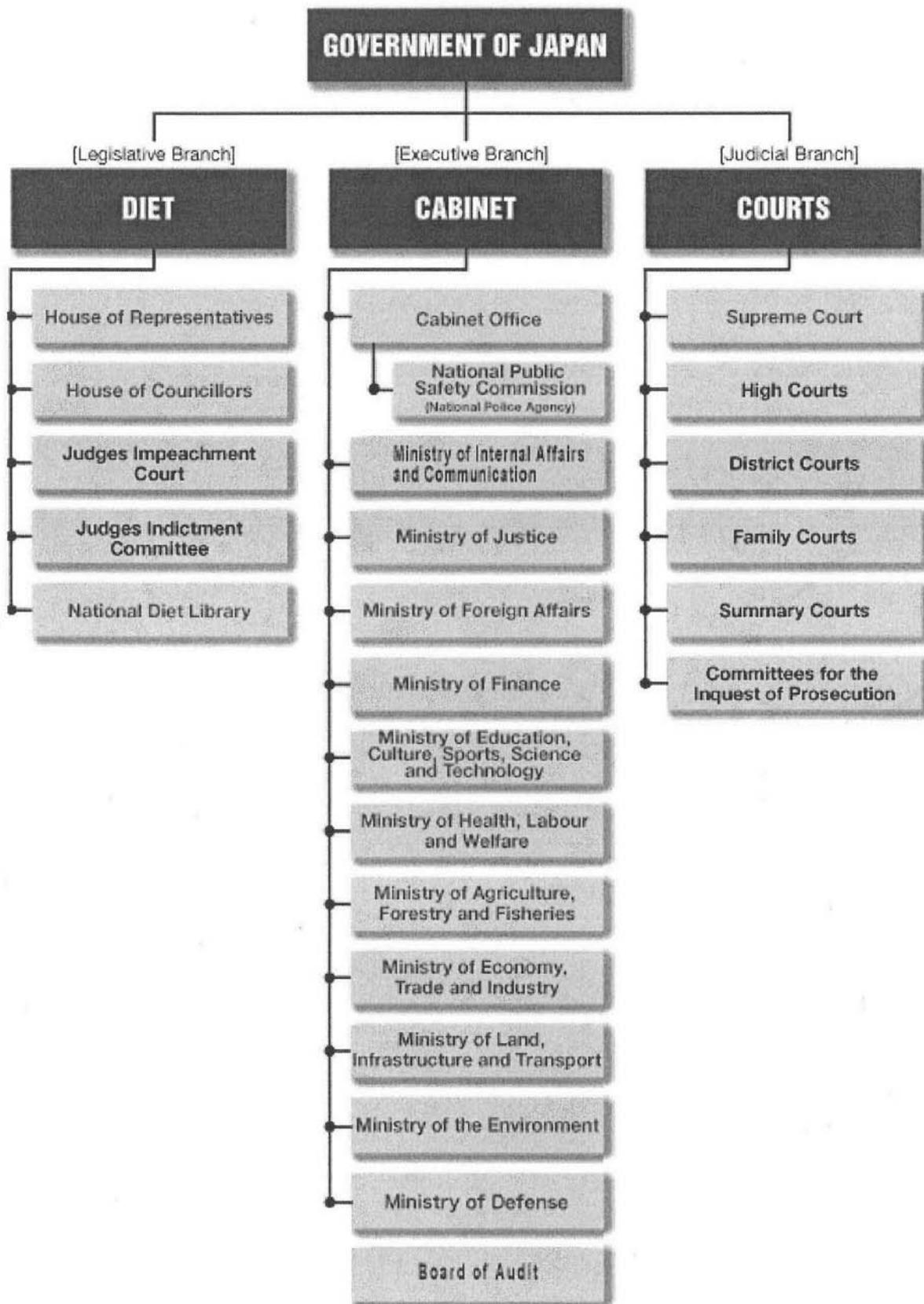
Mr Masahiro MORISHITA  
Manager  
Miyazaki Plant

**JA Miyazaki Keizairen Farm Inspection Centre**

Mr Koyo HIDAKA  
Director  
Farm Inspection Centre

Mr Karunori OSIKAWA  
Section Chief  
Horticulture Sales Section  
Farm Inspection Centre

Mr Koji KAWAHARA  
Assistant Section Chief  
Miyazaki Agricultural Economic Federation



宮城県・福島県・茨城県沖における海域モニタリング結果

Readings of Sea Area Monitoring at offshore of Miyagi, Fukushima and Ibaraki Prefecture

平成23年7月1日

Jul 1, 2011

文部科学省

Ministry of Education, Culture, Sports, Science and  
Technology (MEXT)

1. 海水中の放射能濃度

1. Radioactivity Concentration Undersea

測定試料 採取点※1 Sampling Point※1	採水日時 Sampling Time and Date	緯度, 経度 Latitude, Longitude	採水深 Sampling Depth		放射能濃度※2 (Bq / L) Radioactivity Concentration※2 (Bq / L)		
					I-131	Cs-134	Cs-137
【A1】	2011/6/23 11:56	38° 30.0' N, 141° 50.9' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			中層 Middle Layer	100m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	184m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【A2】	2011/6/23 13:33	38° 30.0' N, 141° 57.9' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	282m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【A3】	2011/6/23 14:59	38° 29.9' N, 142° 05.0' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	461m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【B1】	2011/6/22 15:06	38° 05.0' N, 141° 15.4' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			中層 Middle Layer	10m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	29m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【B2】	2011/6/22 14:14	38° 05.0' N, 141° 22.3' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	55m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【B3】	2011/6/22 13:06	38° 05.0' N, 141° 29.3' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	99m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【B4】	2011/6/22 11:13	38° 04.9' N, 141° 43.4' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	137m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【C1】	2011/6/22 5:54	37° 45.0' N, 141° 15.4' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			中層 Middle Layer	10m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	37m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【C2】	2011/6/22 7:07	37° 45.0' N, 141° 22.3' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	87m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【C3】	2011/6/22 8:19	37° 45.0' N, 141° 29.4' E	表層 Outer Layer	1m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
			下層 Lower Layer	115m	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable

【D1】	2011/6/21 16:44	37° 35.0' N, 141° 22.4' E	表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
			中層	50m	不檢出	不檢出	不檢出
			Middle Layer		Not detectable	Not detectable	Not detectable
【D2】	2011/6/21 15:20	37° 35.0' N, 141° 29.4' E	下層	105m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【D3】	2011/6/21 13:53	37° 35.0' N, 141° 36.4' E	下層	114m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【E1】	2011/6/21 6:54	37° 25.0' N, 141° 22.4' E	下層	201m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【E2】	2011/6/21 8:32	37° 25.0' N, 141° 29.4' E	中層	50m	不檢出	不檢出	不檢出
			Middle Layer		Not detectable	Not detectable	Not detectable
			下層	112m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
【E3】	2011/6/21 10:01	37° 25.0' N, 141° 36.4' E	表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
			下層	132m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
【E4】	2011/6/21 11:34	37° 25.0' N, 141° 43.4' E	表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
			下層	207m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
【F1】	2011/6/20 13:29	37° 15.0' N, 141° 22.4' E	表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
			中層	50m	不檢出	不檢出	不檢出
			Middle Layer		Not detectable	Not detectable	Not detectable
【F2】	2011/6/20 15:10	37° 15.0' N, 141° 29.4' E	下層	124m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【F3】	2011/6/20 16:32	37° 15.0' N, 141° 36.4' E	下層	155m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【G1】	2011/6/20 6:57	37° 05.0' N, 141° 15.4' E	下層	212m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【G2】	2011/6/20 9:14	37° 05.0' N, 141° 22.4' E	中層	50m	不檢出	不檢出	不檢出
			Middle Layer		Not detectable	Not detectable	Not detectable
			下層	119m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
【G3】	2011/6/20 11:18	37° 05.0' N, 141° 29.4' E	表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
			下層	142m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
【H1】	2011/6/25 18:28	36° 54.9' N, 141° 08.4' E	表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
			中層	50m	不檢出	不檢出	不檢出
			Middle Layer		Not detectable	Not detectable	Not detectable
【H2】	2011/6/25 16:47	36° 54.9' N, 141° 15.3' E	下層	113m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【H3】	2011/6/25 14:35	36° 54.9' N, 141° 22.2' E	下層	133m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不檢出	不檢出	不檢出
			Outer Layer		Not detectable	Not detectable	Not detectable
【H3】	2011/6/25 14:35	36° 54.9' N, 141° 22.2' E	下層	213m	不檢出	不檢出	不檢出
			Lower Layer		Not detectable	Not detectable	Not detectable

【I1】	2011/6/23 9:17	36° 45.0' N, 140° 57.0' E	表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
			中層	50m	不検出	不検出	不検出
【I2】	2011/6/23 7:44	36° 45.0' N, 141° 04.0' E	Middle Layer		Not detectable	Not detectable	Not detectable
			下層	75m	不検出	不検出	不検出
			Lower Layer		Not detectable	Not detectable	Not detectable
【I3】	2011/6/23 6:02	36° 45.0' N, 141° 11.0' E	表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
			下層	114m	不検出	不検出	不検出
【J1】	2011/6/22 19:45	36° 24.9' N, 140° 43.1' E	Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
【J2】	2011/6/22 16:57	36° 24.9' N, 140° 57.0' E	中層	10m	不検出	不検出	不検出
			Middle Layer		Not detectable	Not detectable	Not detectable
			下層	24m	不検出	不検出	不検出
【J3】	2011/6/22 14:19	36° 25.1' N, 141° 04.0' E	Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
【K1】	2011/6/22 5:58	36° 04.0' N, 140° 42.9' E	下層	14m	不検出	不検出	不検出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不検出	不検出	不検出
【K2】	2011/6/22 8:11	36° 03.9' N, 140° 56.9' E	Outer Layer		Not detectable	Not detectable	Not detectable
			下層	179m	不検出	不検出	不検出
			Lower Layer		Not detectable	Not detectable	Not detectable
【K3】	2011/6/22 10:23	36° 04.0' N, 141° 03.9' E	表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
			下層	465m	不検出	不検出	不検出
【L1】	2011/6/20 15:12	35° 45.0' N, 140° 56.9' E	Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
【L2】	2011/6/20 13:31	35° 45.1' N, 141° 04.0' E	下層	20m	不検出	不検出	不検出
			Lower Layer		Not detectable	Not detectable	Not detectable
			表層	1m	不検出	不検出	不検出
【L3】	2011/6/20 11:28	35° 45.4' N, 141° 11.5' E	Outer Layer		Not detectable	Not detectable	Not detectable
			下層	92m	不検出	不検出	不検出
			Lower Layer		Not detectable	Not detectable	Not detectable
【L4】	2011/6/20 7:31	35° 45.0' N, 141° 18.1' E	表層	1m	不検出	不検出	不検出
			Outer Layer		Not detectable	Not detectable	Not detectable
			下層	750m	不検出	不検出	不検出
			Lower Layer		Not detectable	Not detectable	Not detectable

※1 サンプリングは、39地点の抽出調査を行った。【 】内の番号は、5ページ目の測点番号に対応。

※1 Seawater is collected at 39 points below. The character enclosed in parentheses (Ex. 【A1】) indicates monitoring points on Page 5.

※2 本分析における海水の放射能濃度の検出限界値(ヨウ素が約4Bq/L、セシウム134が約6Bq/L、セシウム137が約9Bq/L)を下回る場合は、不検出と記載。

※2 The detection limits for radioactivity concentration in sea water are approximately 4Bq/L for iodine, approximately 6 Bq/L for cesium-134 and approximately 9Bq/L for cesium-137.

## 2. 大気浮遊塵の放射能濃度

### 2. Radioactivity Concentration in dust over the Sea

測定試料 採取点※1 Sampling Point※1	採取日時 Sampling Time and Date	放射能濃度※2 (Bq / m <sup>3</sup> ) Radioactivity Concentration※2 (Bq / m <sup>3</sup> )		
		I-131	Cs-134	Cs-137
【A】	2011/6/23 11:43	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【B】	2011/6/22 11:12	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【C】	2011/6/22 5:48	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【D】	2011/6/21 13:53	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【E】	2011/6/21 6:53	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【F】	2011/6/20 13:26	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【G】	2011/6/20 6:47	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【H】	2011/6/25 14:30	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【I】	2011/6/23 6:15	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【J】	2011/6/22 14:20	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【K】	2011/6/22 6:25	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable
【L】	2011/6/20 7:20	不検出 Not detectable	不検出 Not detectable	不検出 Not detectable

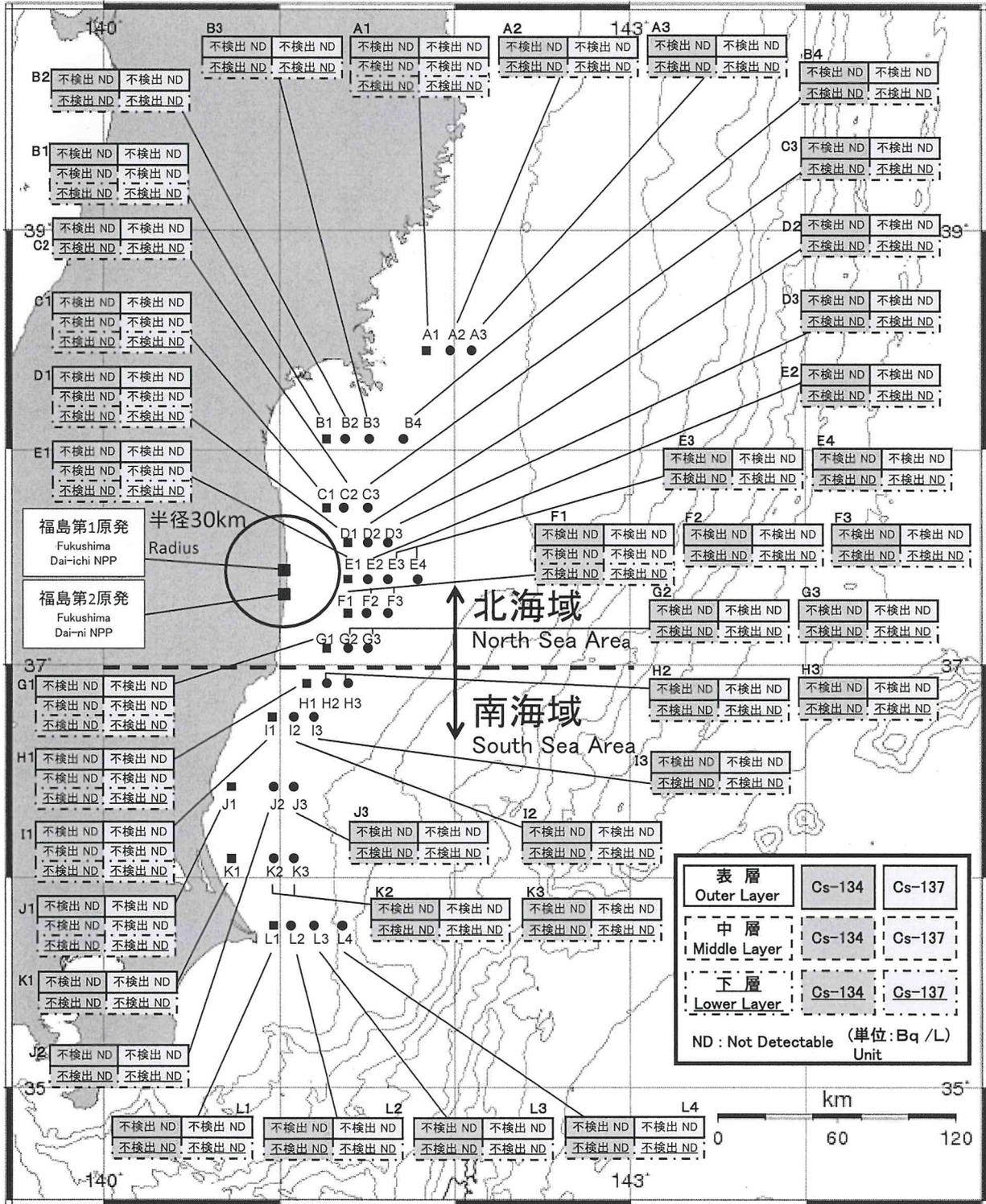
※1 サンプリングは、12地点で抽出調査を行った。【 】内の数値は、5ページ目の測点番号に対応。例えば【A】はA1, A2, A3のラインを意味する。

※1 Dust is collected at 12 lines below. The character enclosed in parentheses (Ex. 【A1】) indicates monitoring points on Page 5.

※2 本分析における塵中の放射能濃度の検出限界値(ヨウ素が約0.5Bq/m<sup>3</sup>、セシウム134が約2Bq / m<sup>3</sup>、セシウム137が約3Bq / m<sup>3</sup>)を下回る場合は、不検出と記載。

※2 The detection limits for radioactivity concentration in dust are approximately 0.5Bq/m<sup>3</sup> for iodine, approximately 2Bq/m<sup>3</sup> for cesium 134 and approximately 3Bq/m<sup>3</sup> for cesium 137.

海域モニタリング結果(平成23年6月20日~23日、25日採水)  
 Readings of Sea Area Monitoring (Jun 20-23 & 25, 2011)

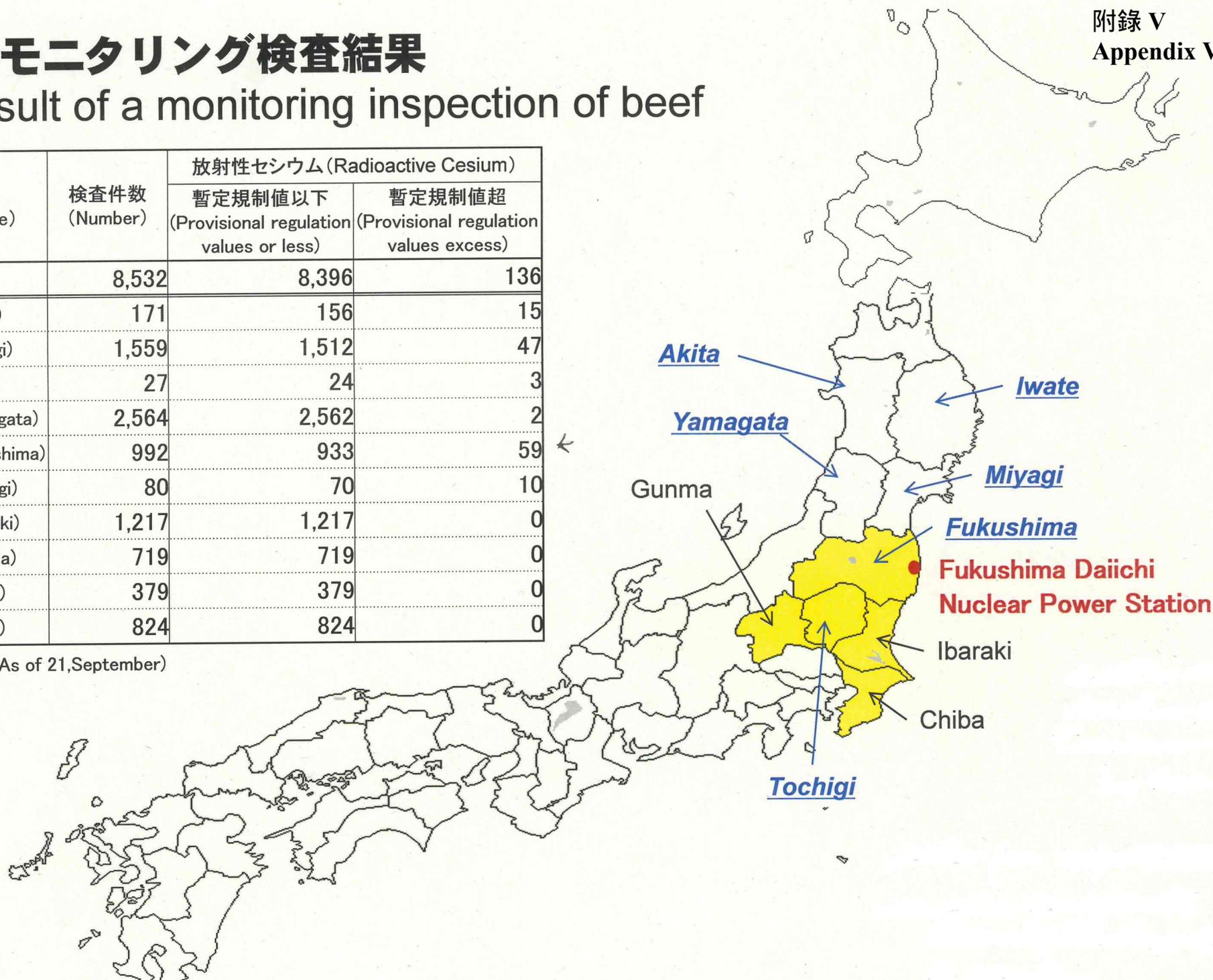


# 牛肉のモニタリング検査結果

The result of a monitoring inspection of beef

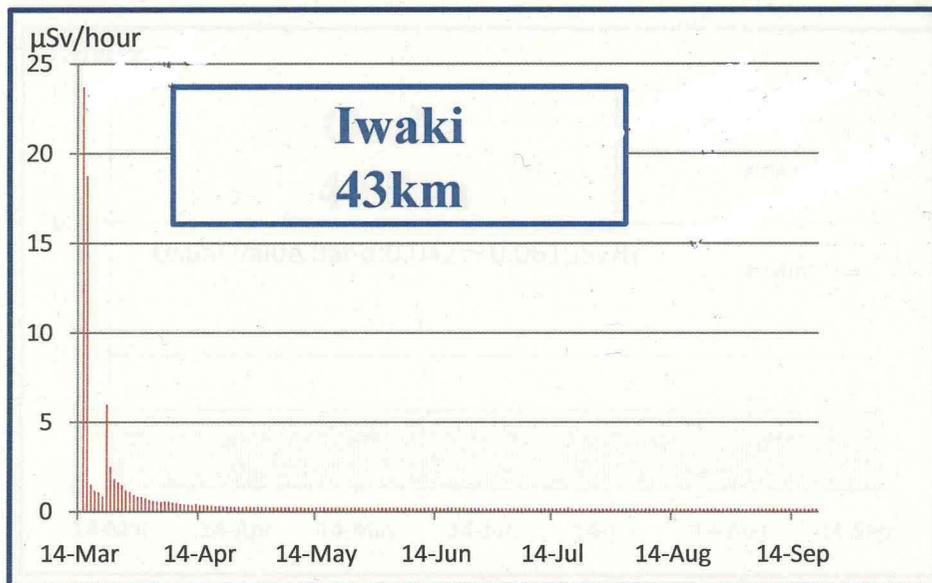
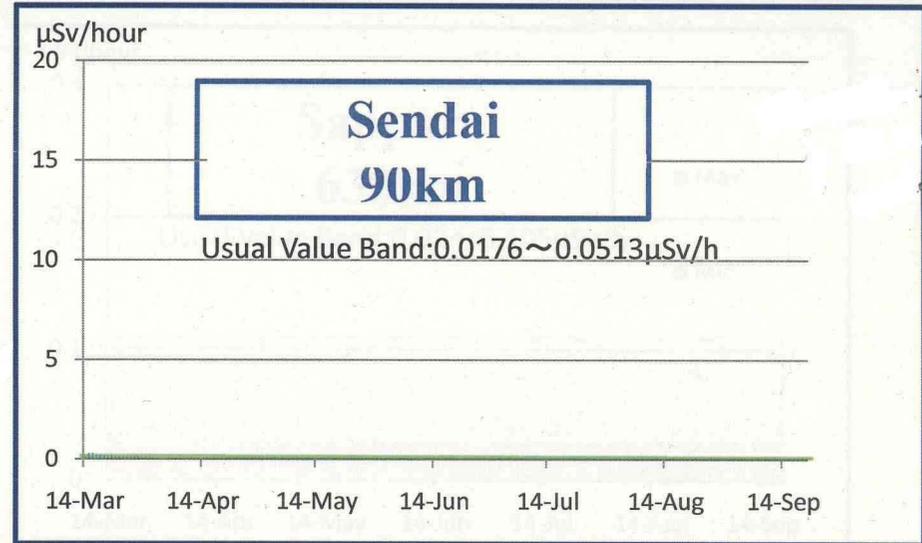
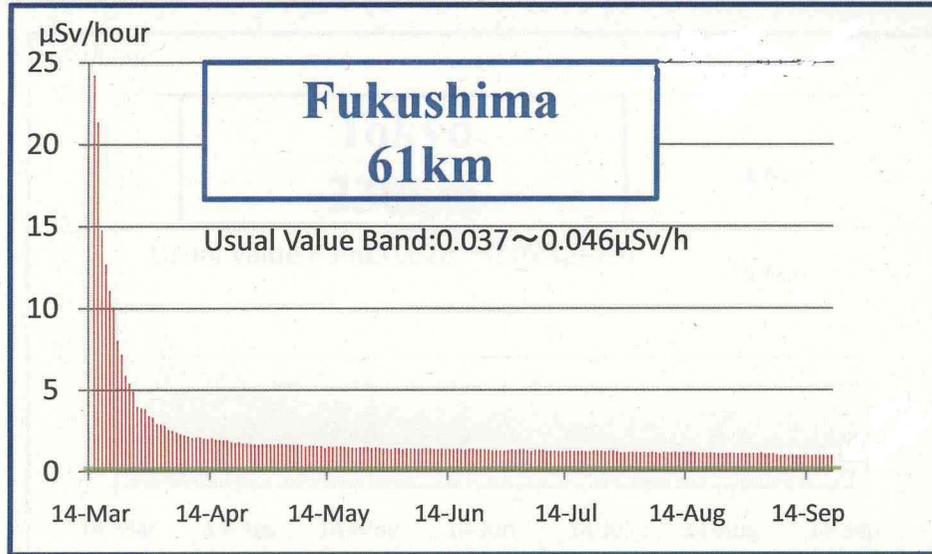
県名 (Prefecture)	検査件数 (Number)	放射性セシウム (Radioactive Cesium)	
		暫定規制値以下 (Provisional regulation values or less)	暫定規制値超 (Provisional regulation values excess)
総計 (Total)	8,532	8,396	136
岩手県 (Iwate)	171	156	15
宮城県 (Miyagi)	1,559	1,512	47
秋田県 (Akita)	27	24	3
山形県 (Yamagata)	2,564	2,562	2
福島県 (Fukushima)	992	933	59
栃木県 (Tochigi)	80	70	10
茨城県 (Ibaraki)	1,217	1,217	0
群馬県 (Gunma)	719	719	0
千葉県 (Chiba)	379	379	0
その他 (Other)	824	824	0

9月21日現在 (As of 21, September)

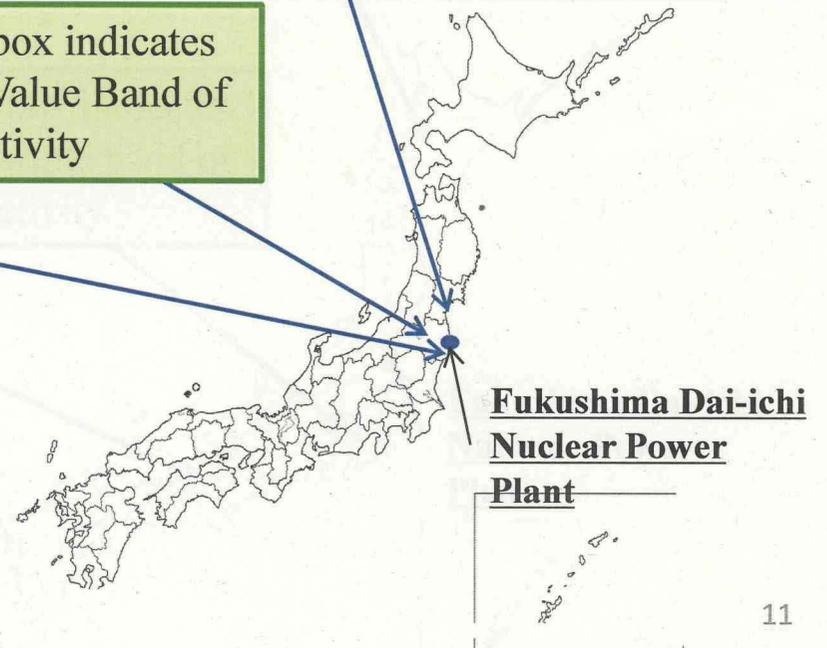


# Atmospheric Readings of Radioactivity Level - within 100km from the Nuclear Power Plant -

附録 VI  
Appendix VI

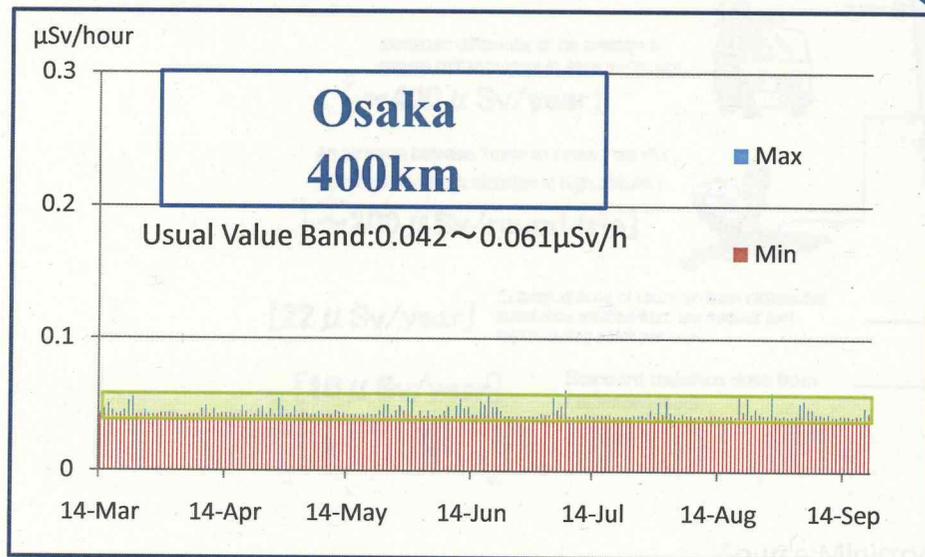
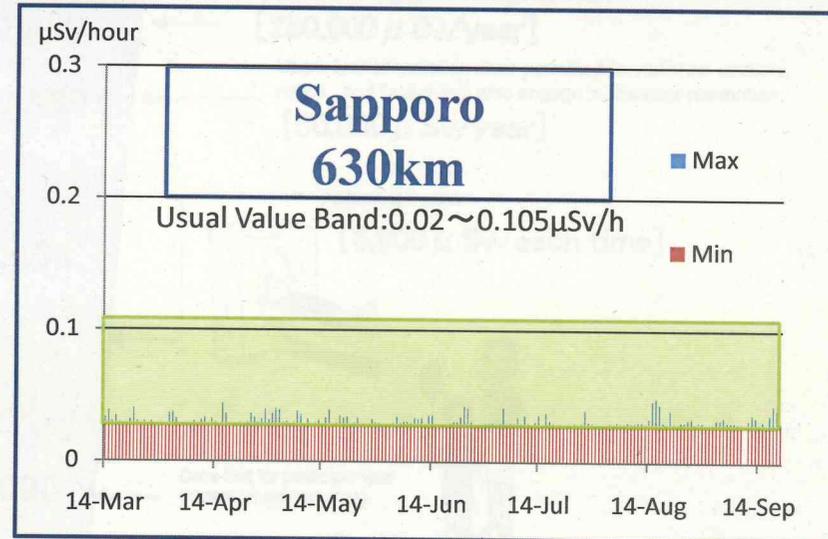
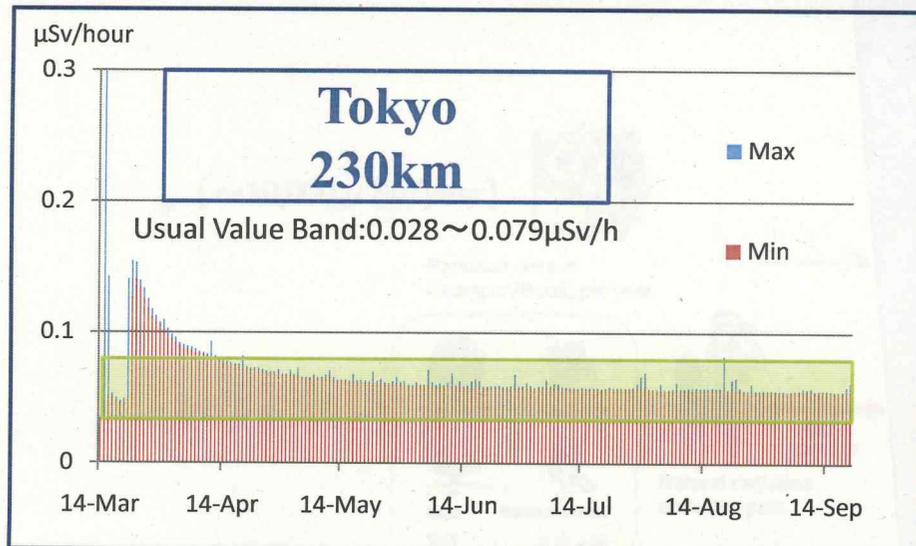


Green box indicates Usual Value Band of radioactivity

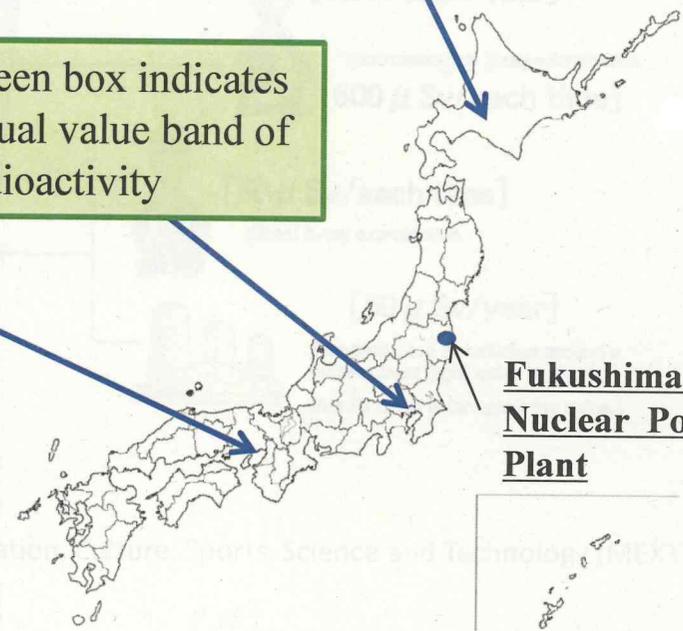


# Atmospheric Readings of Radioactivity Level - Tokyo, Osaka and Sapporo -

附録 VII  
Appendix VII



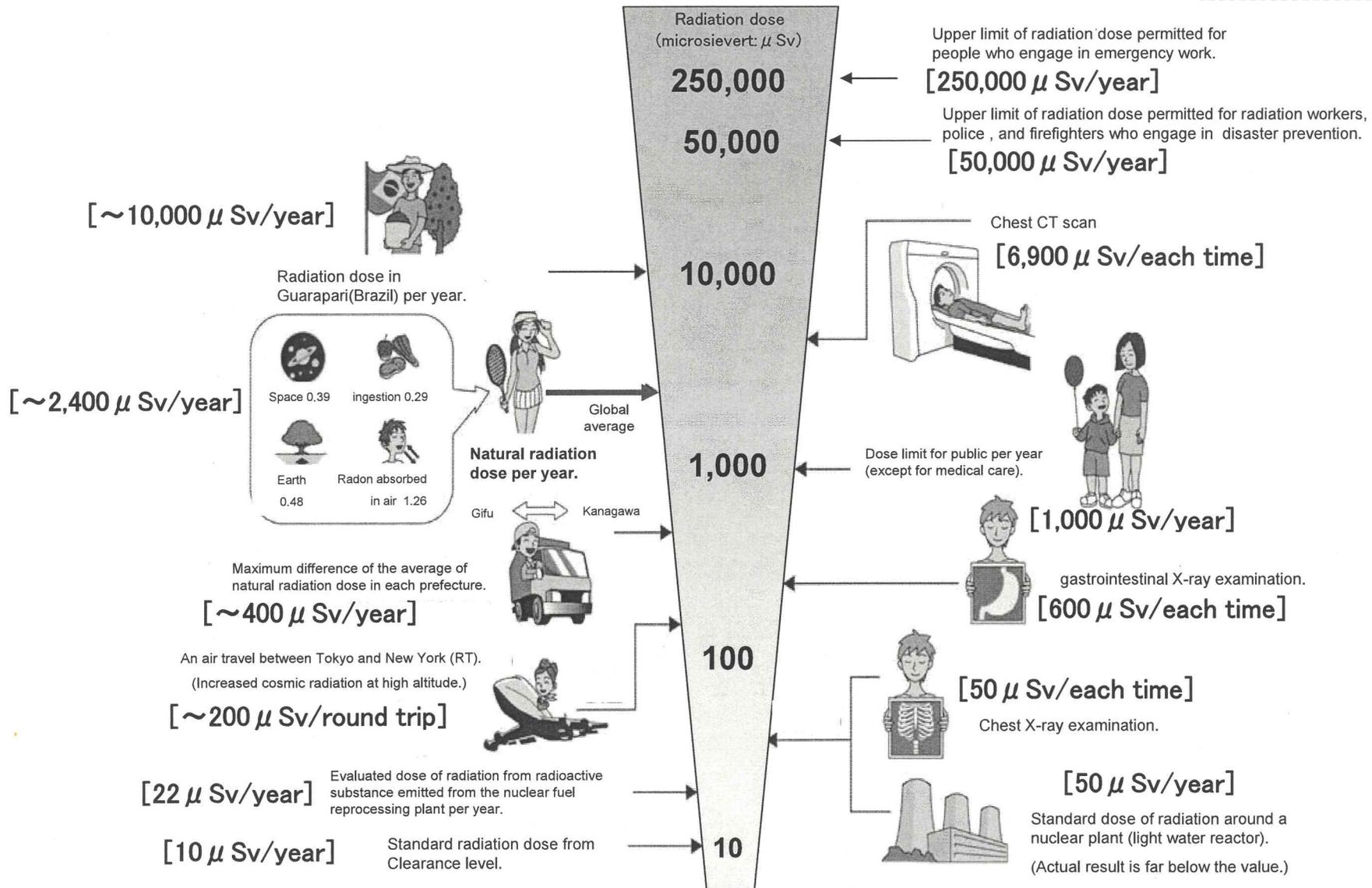
Green box indicates  
Usual value band of  
radioactivity



**Fukushima Dai-ichi  
Nuclear Power  
Plant**

# 日常生活中的輻射顯示圖 Radiation in Daily-life

※Unit :  $\mu$  Sv

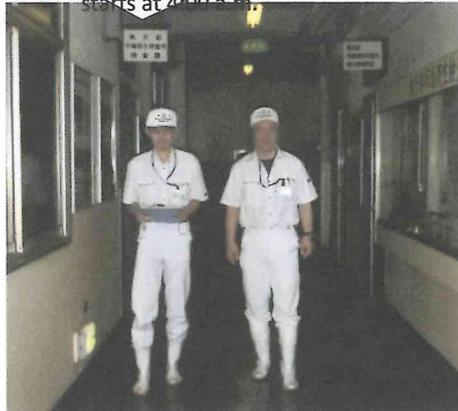


## II A day of the Sanitary Inspection Station

### 1 Early morning inspection

In front of the office of the  
Wholesale Market Sanitary  
Inspection Station

starts at 4:00 a.m.



- Three essential items  
for market sanitation inspectors**
- (1) Poisonous fish and shellfish  
guidebook compiled by inspectors
  - (2) Infrared thermometers that  
measure the surface temperatures  
instantaneously
  - (3) Digital cameras to check labeling  
violations and unknown food



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The auction place for  
inshore fresh fish and  
shellfish.



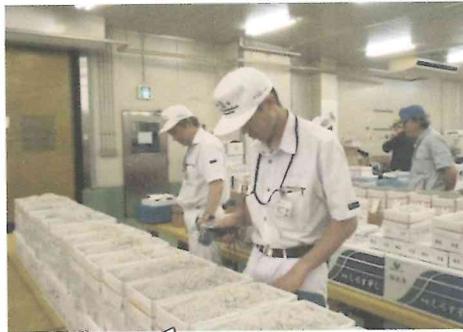
The low-temperature auction place  
for sea urchins



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**The auction place for fresh tuna**

Farmed fresh tuna from as far as Spain, Greece, or Mexico have become available these days due to the development of distribution networks. Here, inspectors are checking the handling, temperatures, and display methods for tuna.



**The auction place for salted and dried products**

This is an auction place for salted and dried fish and shellfish products. Food sanitation inspectors mainly check indications on processed food.

**The second low-temperature auction place.**

Processed fish and shellfish products are mainly traded here.

Inspectors are checking the label description.



**The auction place for frozen tuna**  
You can see a row of frozen tuna with the removed branchial part and viscera. Inspectors give advice not to cause damage to the fish while checking the proportion of fat, etc.



**The place for living fish and shellfish**  
Inspectors are identifying and removing foods that are in violation or bad such as poisonous fish.



## 2 Ordinary inspections



### Morning meeting

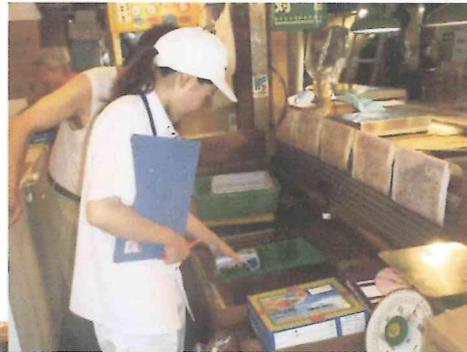
Inspectors discuss monitoring points of the day based on the report from the early morning inspectors.

### Check of food labeling

Inspectors take photos of food labeling with a digital camera if they identify any violations.



Inspectors are giving guidance in sanitary handling of foods and facilities and support that an intermediate wholesaler continue voluntary control of sanitation.



### Temperature check

Inspectors are giving advice to middle traders on the handling of food.



### Sampling

(obtain specimens of food products at no charge for examination).



### Simple examination

Inspectors are conducting "stamp examination" wiping off the surface of tuna block to check its bacteriological hygiene.



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## 3 Laboratory examinations

### Bacterial test

Examiners are checking the existence and counts of bacteria by diluting the equalized sample as appropriate, placing it in culture to identify food-poisoning bacteria, and multiplying the identified bacteria in an incubator.



### Biological examinations



### Norovirus

Norwalk virus check in bivalves which are to be eaten raw



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## Chemical examinations

### Pretreatment of samples

Examiners equalize the edible part of a sample, as pretreatment for the test of PCB and other environmental pollutants.



### Examination of samples food additives

Instrumental analysis using high performance liquid chromatography. The picture shows an examination to detect food additives.



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### Test of shellfish poisons

Examiners check the virulence of shellfish poisons.



### Pesticide

Examiners check the residual pesticides used in the cultivation of vegetables and fruit do not exceed specified standards



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