# WHO SITREP NO 17

**Japan earthquake and tsunami**
**Situation Report No. 17**
**26 March 2011**
**As of 14:30 hrs Manila Time**

World Health Organization
Western Pacific Region

**All times stated below are in Tokyo time.**

## SITUATION SUMMARY

- A 9.0 magnitude earthquake occurred on 11 March 2011 in Japan at 5:46:23 GMT, hitting the northeast coast of Honshu in Japan.
- Based on official figures of the Japan government, 10 102 persons are confirmed dead, 2 777 injured and more than 17 053 missing. Combined deaths and missing counts are >27 000.
- There are 246 109 evacuees. Health-related issues include the limited capacity of health care facilities in the earthquake affected areas (e.g. some hospitals are unable to accept new patients), communicable diseases (especially influenza), mental health, care of the elderly, hypothermia and aspiration pneumonia.
- Fukushima Daiichi nuclear power plant
    - Units 1 and 3 had light in the control centres and according to media, Unit 2 will have light today. The final check-up of electrical equipment is underway at reactors 2 and 4 before they will turn on the electricity.
    - Pressure of the nuclear core of Unit 1 is still high at 0.353/0.360 MPaG (26 March). However, the pressure is slightly decreasing.
    - Pure water pumping has started for reactors of Units 1 and 3 instead of sea water pumping. Water-injecting operation was done for Unit 4 and Unit 2 and water-spraying operations were done for Unit 3 on 25 March.
    - Pooled water at the floor of Unit 1 showed high radio active level (almost same level as pooled water in Unit 3).
- Radioactivity levels at the main gate of Fukushima Daiichi Nuclear Power Plant (NPP) and surrounding prefectures remain low. Radiation level, however, was higher in water sample from the turbine room of Units 1 and 3. Some prefectures detected higher than background level.
- Surveillance of seawater near the NPP sites indicates 1250 times above safety level (Iodine-131) for seawater at 330 m from Daiichi plant. This is much higher than the 147 times safety level detected earlier on 23 March.
- Results of monitoring of radioactivity of tap water show low radioactivity levels in general. As of 25 March, restriction against drinking water for all residents is in place in Iidate-mura (Fukushima). Restriction against drinking water for infants is in place in some places in Fukushima, Ibaraki and Chiba prefectures. In other prefectures all reported levels are lower than the 100Bq/kg limit.
- No additional food sample results have been received from the MHLW or from national food safety authorities undertaking imported food monitoring relating to this event.

## EVENT INFORMATION

### Weather

**(Source: Japan Meteorological Agency, 26 March)**

26 March: Tohoku area (Iwate, Miyagi, Fukushima) may have rain or snow, with temperature ranging from 0 to 10C and wind 0 to >=10m/s, from W/NW/N. There is high tide until 26 March – warning of high sea levels.

26-29 March: Minimum and maximum temperature will be lower than usual and it may drop below the freezing point in the morning and evening in Tohoku.

## POPULATION STATUS

The numbers of deaths and missing have been increasing compared to the figures reported yesterday. Combined deaths and missing counts are >27 000.

**Table 1: Confirmed number of deaths, missing, injured and evacuated persons (as of 26 March)**

| Prefectures | Death | Missing | Injured | Evacuee |
|---|---|---|---|---|
| Hokkaido | 1 | | 3 | |
| Aomori | 3 | 1 | 66 | 323 |
| Iwate | 3,092 | 4,878 | 130 | 43,728 |
| Miyagi | 6,097 | 6,237 | 1,040 | 86,927 (Including evacuees from Fukushima) |
| Akita | - | - | 7 | 1,541 (Evacuees from other prefectures) |
| Yamagata | 1 | - | 18 | 3,327 (Evacuees from Fukushima and Miyagi) |
| Fukushima | 855 | 5,934 | 220 | 86,308 |
| Tokyo | 7 | | 77 | 981 (Evacuees from Iwate, Fukushima and Miyagi) |
| Ibaragi | 20 | 1 | 663 | 2,734 (Including evacuees from Fukushima) |
| Tochigi | 4 | | 133 | 2,689 (Including evacuees from Fukushima) |
| Gunma | 1 | | 35 | 3,137(Evacuees from Fukushima and Miyagi) |
| Saitama | | | 42 | 3,465(Evacuees from Fukushima etc.) |
| Chiba | 17 | 2 | 208 | 1,414 (Including evacuees from Fukushima) |
| Kanagawa | 4 | | 127 | 547 (Evacuees from Fukushima) |
| Niigata | - | - | 2 | 7,532 (Evacuees from Fukushima) |
| Yamanashi | - | - | 1 | 740 (Evacuees from Fukushima and Miyagi) |
| Nagano | - | - | - | 390 (Evacuees from Fukushima and Ibaraki) |
| Shizuoka | - | - | 4 | 407(Evacuees from Fukushima) |
| Kouchi | - | - | 1 | |
| **Total** | **10,102** | **17,053** | **2,777** | **246,109** |

## HEALTH STATUS, LIFELINE SERVICES AND RESPONSE

### Health care facilities

- The local medical associations have reported limited capacity of the health facilities (as of 25 March). Out of 231 hospitals and clinics in Iwate, Fukushima and Miyagi prefecture, 121 (52%) are unable to accept new patients, while 33 (14%) are unable to accept any patients due to lack of resources including staff.

### Communicable diseases

- A risk assessment of infectious diseases has been conducted by the National Institute of Infectious Diseases.
- An internet-based ad-hoc surveillance system has been developed by the Infectious Disease Surveillance Centre, National Institute of Infectious Diseases (http://www.syndromic-surveillance.net/hinanjo/index.html). Data are not available as of 26 March.
- Influenza viruses were detected in Sendai and surrounding areas. Based on a report, 21 out of 59 specimens were tested positive for influenza A (21 were positive for H3N2 and 2 were positive for pandemic influenza A (H1N1). Influenza rapid test kits were used at an emergency centre in Sendai for the period 12-21 March. Rapid test was conducted for 335 out of 1 180 patients（28.3%). It was found that influenza A positive: 107(31.9%), influenza B positive: 5(1.5%).

### Non-communicable Diseases

- The Japan Medical Association started to ship insulin to affected sites but there has been difficulty in reaching the affected areas because of bad road conditions and lack of petrol.
- It was reported on 24 March that three workers at Unit 3 had exposure of higher levels of radiation and they are currently being treated at a hospital under the National Institute on Radiation Science and no serious health consequence reported.

### Hypothermia

People continue to face cold temperatures with insufficient heating. Hypothermia has been reported particularly among the elderly population in the evacuation centres.

### Care of the elderly

- It was reported that there were 15 out of 170 elderly who died within one week after evacuation.
- As of 26 March, 52 deaths in shelters have been reported, particularly among the elderly.

### Tsunami-related symptoms/aspiration pneumonia

- No updates on pneumonia cases.

## Mental Health

- MHLW is coordinating the needs by location and deployments of mental health workers to the sites.
- There was a survey on mental health issues in Iwate prefecture. Some 73 evacuation centres were investigated. Around 60% of the centres have patients who need immediate psychosocial support.

## Response to health and lifeline services

The National Emergency Management Committee, led by the Prime Minister, has been established to oversee and coordinate all response activities. A state of emergency has been declared. All prefectures have also activated the local government response.

**Medical team activities**

- The National Centre for Child Health and Development and Japanese Society of Emergency Paediatrics deployed a team to Miyagi Prefectural Paediatric Hospital for assessing the paediatric medical needs.
- Some 101 teams, consisting of 542 members are responding to Iwate, Miyagi and Fukushima from the National Hospital Institution, Japan Red Cross Society, Japan Medical Association, etc.
- Some 234 pharmacists are deployed to Miyagi (165), Fukushima (53), Iwate (14), Ibaragi (2) by the Japan Pharmaceutical Association and Japanese Society of Hospital Pharmacists.
- On 25 March, the Japanese Nursing Association dispatched 76 nurses to Iwate and Miyagi.
- Some 97 public health nurse teams have been deployed to evacuation centres and public health centres in a number of the affected areas including Fukushima, Iwate, Sendai and Miyagi. Additional 9 teams have been mobilized or on standby for health-related services.
- As of 25 March, a total of 25 mental health care teams have been deployed to provide psychosocial support to the affected areas, including Iwate, Miyagi, Sendai City and Fukushima. Additional 7 teams have been mobilized or on standby for mental health support.

**Table 2: Public health nurse teams deployed to evacuation centres and public health centres as of 25 March**

| | Number of team | Location |
|---|---|---|
| Responding | 97 | Iwate(28), Miyagi(41)+Sendai city(26), Fukushima(2) |
| Mobilizing | 2 | Miyagi(2) |
| Standby | 7 | Iwate(5), Miyagi(2) |
| Total | 106 | Iwate(33), Miyagi(45)+Sendai city(26), Fukushima(2) |

**Table 3: Mental health care teams have been deployed as of 25 March**

| | Number of team | Location |
|---|---|---|
| Responding | 25 | Iwate(9), Miyagi(11)+Sendai city(4), Fukushima(1) |
| Mobilizing | 1 | Sendai(1) |
| Standby | 6 | Iwate(1), Miyagi(4), Fukushima(1) |
| Total | 32 | Iwate(10), Miyagi(15)+Sendai city(5), Fukushima(2) |

**Food/water/essentials**
The Ministry of Health, Labour and Welfare (MHLW) reported on 26 March that 874 944 households were without water. Food, water and other essential items continue to be supplied to affected areas.

**Management of dead bodies**
MHLW is supporting local governments for the management of the dead.

**Communication**
Improvement: Some 124 941 telephone lines remain out of service. A reported 2 291 base stations of mobile companies are not working. Some mobile companies provide free satellite phone, cell phone and charger as well as disaster messaging services.

**Buildings**
There are 18 789 buildings completely destroyed while partially destroyed are reported at 6 589.

**Electricity**
Gradual improvement: As of 26 March, approximately 200 000 households remain without power, mostly in the Tohoku region.

**Gas**
Slow improvement: Some 379 292 households remain without gas supply.

**Petrol**
Petrol is being provided to evacuation centres by freight train and tankers from areas both north and south of the affected Tohoku region. Some purification plants remain out of operation.

**Transport**
As of 26 March, 2 035 damaged road have been reported from 11 prefectures (Aomori, Miyagi, Yamagata, Akita, Tokyo, Ibaragi, Tochigi, Saitama, Gunma, Chiba and Iwate). There were reports of 56 damaged bridges in four prefectures. Many roads and highways have remained closed. Assessments from Fukushima were not yet completed.

As of 26 March, 36 damaged rail lines in three prefectures were reported. About 30 Local trains in the affected area remain out of service.

Sendai airport is open for 24-hour operations for rescue activities and all 15 ports in the affected area are available for "disaster measures".

## RADIATION AND NUCLEAR FACILITIES

### Updates on Fukushima Daiichi plant

- Units 1 and 3 had light in the control centres and according to media, Unit 2 will have light today. The final check-up of electrical equipment is underway at reactors 2 and 4 before they will turn on the electricity.
- Pressure of the nuclear core of Unit 1 is still high at 0.353/0.360 MPaG (26 March). However, the pressure is slightly decreasing.
- Pure water pumping instead of sea water pumping has started for reactors of Units 1 and 3.
- Water-injecting operation was done for Unit 4 and Unit 2 and water-spraying operations were done for Unit 3 on 25 March.
- Pooled water at the floor of Unit 1 showed high radioactivity level (almost same level as pooled water in Unit 3).

## Table 4: Status of reactors at Fukushima Daiichi plant (26 March)

| Unit.No | Operation status prior to earthquake | INES assessment | Fire/Explosion | Damage to building of the unit | Fuel rod status | pressure of nuclear core | Temperature of nuclear core | Pressure container | Spent fuel storage pool temperature | Water spraging/injection for spent fuel storage pool | Recovery of electricity | Recent operations (19-26 March) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit1 (460,000Kw) | Operating | Level 5 (18 Mar) | H-explosion (12 Mar); white smoke/steam (24Mar) | Severely damaged | Failure to cool the fuel rod | **0.353/0.360** MPaG (26Mar); slightly decreasing | **209.0**/144.3C (26Mar) | Maintained | Unable to measure | | electric line is working from outside and checking up for electric equipment is underway(23Mar);**lighted** in central operating room(24Mar) | Sea water pumping(12-25Mar); **pure wate**r pumling(25Mar-) |
| Unit2 (784,000Kw) | Operating | Level 5 (18 Mar) | Sound of explosion (15 Mar); white smoke (21, 22 Mar); white smoke/steam(24Mar) | Damage on wall | Failure to cool the fuel rod | minus0.014/0.014 Mpa G (26Mar) | 109/100C (26Mar) | Suppression pool may be damaged (15 Mar) | 52.0(26Mar) | Injection: 96t | electric line from outside is working and checking up for electric equipment is underway(22Mar) | Sea water pumping(14Mar-);preparing for pure water pumpinb(25Mar); water injection for spent fuel storage pool (20,25 Mar); |
| Unit3 (784,000Kw) | Operating | Level 5 (18 Mar) | H-explosion (14 Mar); greyish smoke (21, 22 Mar): black smoke(23 Mar, 4:20PM) ;white smoke/steam(24Mar) | Severely damaged | Failure to cool the fuel rod | 0.038/minus0.101Ppa G(26Mar) | 26.1(pending)/102.5 (24Mar) | Pressure is stable (21Mar) | Not able to measure | Spray and injection: 4497t in total | **lighted** in central operating room(22Mar) | Sea water pumping(13-25Mar) ;**pure water** pumping (25Mar-); water spray by fire engine (19, 20, 22, 25 Mar);water infection for spent fuel storage pool (23, 24Mar); |
| Unit4 (784,000Kw) | Under regular check-up | Level 3 (18 Mar) | Fire (15-16 Mar); white smoke/steam(24Mar) | Severely damaged | No fuel rod | | | Maintained | Not able to measure | Spray and injection: 835t in total | electric line is working from outside and checking up for electric equipment is underway(23Mar) | Water spray by fire engine (20-25 Mar); water injection for spent fuel storage pool (25 Mar) |
| Unit5 (784,000Kw) | Under regular check-up | | Nil | make a hole in the ceiling (18,19 Mar) | Not under operation | | | Maintained | 42.3C (26Mar) | | power supply from outside is working and replaced emergency generator function (22 Mar) | Emergency generator operating and cooling operation by pump started for spent fuel storage pool (19 Mar); Coolant pomp became not working (23Mar) replacement will be done on 24 Mar |
| Unit6 (784,000Kw) | Under regular check-up | | Nil | make a hole in the ceiling (18,19 Mar) | Not under operation | | | Maintained | 27.0C (26Mar) | | electric line is working from outside and checking up for electric equipment is underway (22 Mar) | Emergency generator operating and cooling operations started for spent fuel storage pool (19 Mar) ; |

## Radiation levels

Radioactivity levels at the main gate of Fukushima Daiichi Nuclear Power Plant (NPP) and surrounding prefectures remain low. The radiation level, however, was higher in water sample from the turbine room of the Units 1 and 3. Some prefectures detected higher than background level.

**Figure 1. Radiation levels (gamma rays; micro Sv/hr) detected from 14 to 26 March at Daiichi plant**

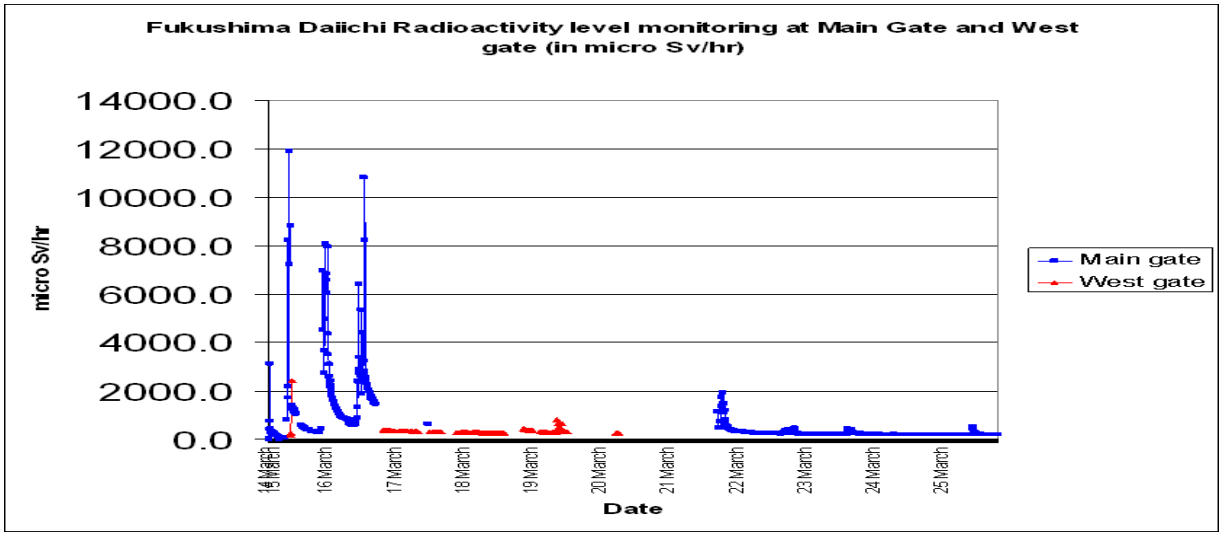



**Table 5: Levels of radiation measured at nearby prefectures**

**Radiation level reported by prefecture in micro Sv/hour (Source: Japan Ministry of Education)**

| | **IBARAKI PREFECTURE** Mito City | **TOCHIGI PREFECTURE** Utunomiya city | **GUNMA PRERECTURE** Maebashi city | **SAITAMA PREFECTURE** Saitama City | **CHIBA PREFECTURE** Ichihara City | **TOKYO** Shingyuku | **KANAGAWA PREFECTURE** Chigasaki |
|---|---|---|---|---|---|---|---|
| Historic background level | 0.036~0.056 | 0.030~0.067 | 0.017~0.045 | 0.031~0.060 | 0.022~0.044 | 0.028~0.079 | 0.035~0.069 |
| 15/3/2011 (7pm-8pm) | 0.239 | 0.321 | 0.389 | 0.169 | 0.055 | 0.361 | 0.062 |
| 16/3/2011 (7pm-8pm) | 0.241 | 0.212 | 0.109 | 0.067 | 0.040 | 0.053 | 0.055 |
| 17/3/2011 (3pm-4pm) | 0.210 | 0.189 | 0.096 | 0.063 | 0.038 | 0.050 | 0.052 |
| 18/3/2011 (2pm-3pm) | 0.189 | 0.167 | 0.086 | 0.058 | 0.034 | 0.050 | 0.05 |
| 19/3/2011 (6am-7am) | 0.180 | 0.157 | 0.083 | 0.058 | 0.033 | 0.047 | 0.049 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20/3/2011 (4pm-5pm) | 0.174 | 0.153 | 0.072 | 0.052 | 0.032 | 0.045 | 0.047 |
| 21/3/2011 (4pm-5pm) | 0.340 | 0.133 | 0.085 | 0.106 | 0.082 | 0.125 | 0.083 |
| 22/3/2011 (4pm-5pm) | 0.378 | 0.148 | 0.110 | 0.114 | 0.106 | 0.142 | 0.093 |
| 23/3/2011 (4pm-5pm)* | 0.343 | 0.141 | 0.096 | 0.120 | 0.104 | 0.146 | 0.097 |
| 24/3/2011 (4pm-5pm) | 0.297 | 0.130 | 0.087 | 0.113 | 0.096 | 0.136 | 0.092 |
| 25/3/2011 (4pm-5pm) | 0.277 | 0.122 | 0.080 | 0.106 | 0.090 | 0.127 | 0.086 |
| | **COMMENTS:Yellow indicates higher than background level; all times in Tokyo time** | | | | | | |

*for Saitama, last measure done 2-3pm

## Monitoring of radioactivity in seawater

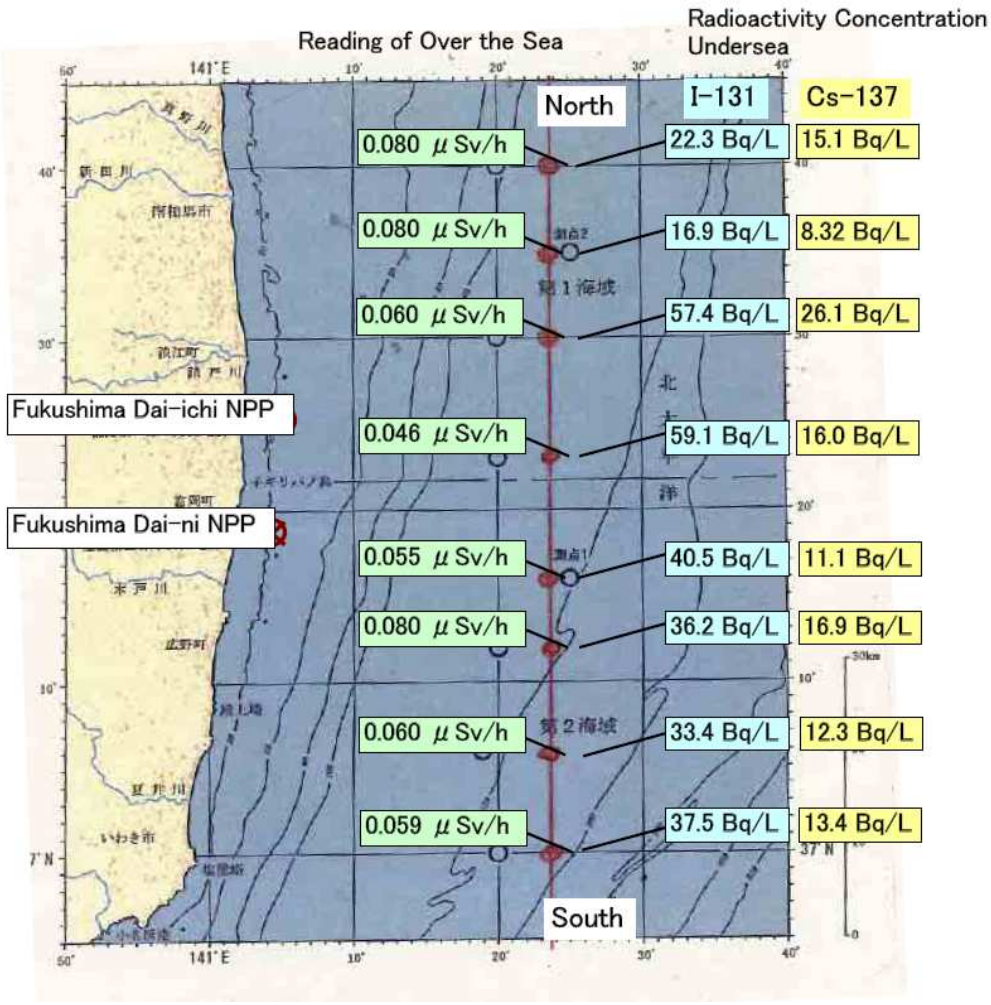
On 23 March, the Ministry of Education Culture Sports Science and Technology (MEXT) began surveillance of coastal waters near the Fukushima Daiichi NPP site. Air and seawater samples have been collected on 23 and 24 March in coastal waters along transects that are separated by 10 km intervals. Sampling has been performed along each transect to a distance of about 30 kms offshore. The results released by MEXT are summarized below.

Surveillance of seawater near the NPP sites indicates 1 250 times above safety level (Iodine 131) for seawater at 330 m from Daiichi plant. This is much higher than the 147 times safety level detected earlier on 23 March.

**Table 6: Seawater concentration (Bq/L)**

| Sampling point | Sampling date | I-131 | Cs-137 | Dose rate (microSv/h) |
|---|---|---|---|---|
| 1-1 | 23-Mar | 24.9 | 16.4 | 0.034 |
| | 24-Mar | 22.3 | 15.1 | 0.080 |
| 1-2 | 23-Mar | 30.0 | 11.2 | 0.038 |
| | 24-Mar | 16.9 | 8.32 | 0.080 |
| 1-3 | 23-Mar | 76.8 | 24.1 | 0.049 |
| | 24-Mar | 57.4 | 26.1 | 0.060 |
| 1-4 | 23-Mar | 37.3 | 18.2 | 0.054 |
| | 24-Mar | 59.1 | 16.0 | 0.046 |
| 2-1 | 23-Mar | 54.7 | 12.7 | 0.035 |
| | 24-Mar | 40.5 | 11.1 | 0.055 |
| 2-2 | 23-Mar | 42.0 | 12.8 | 0.030 |
| | 24-Mar | 36.2 | 16.9 | 0.080 |
| 2-3 | 23-Mar | 29.0 | 15.3 | 0.040 |
| | 24-Mar | 33.4 | 12.3 | 0.060 |
| 2-4 | 23-Mar | 39.4 | 15.2 | 0.040 |
| | 24-Mar | 37.5 | 13.4 | 0.059 |

The maximum permissible concentrations in seawater are 40 Bq/L for I-131 and 90 Bq/L for Cs-137. Values in excess of the Iodine-131 limit have been detected at sampling points 1-3, 1-4, 2-1 and 2-2. MEXT is continuing to monitor the situation.




**Radioactivity in soil**

NHK reported on 25 March that Japanese authorities had detected a concentration of a radioactive substance that was 1 600 times higher than normal at a village 40 kilometers away from the Daiichi nuclear power plant in Fukushima Prefecture. The disaster task force in Fukushima surveyed radioactive substances in soil about 5 centimeters below the surface at six locations around the plant from last Friday through Tuesday. The results announced on Wednesday showed that 163 000 becquerels of radioactive Cesium-137 per kilogram of soil has been detected in Iitate Village, about 40 kilometers northwest of the plant.

## National response to radiation/nuclear facility issues

- Due to potential radiation exposure all people within a 20-km radius have been evacuated from the towns of Okuma, Tomioka, Naraha and Futaba. People residing between 20 and 30 km of the Daiichi plant, like people from Kawauchi village, Tamura city, Hirono town, Iwaki city, Iitate village, Minamisoma city, Katsurao village, and Namie town, had been advised to stay indoors and avoid the use of ventilator systems, close windows and not to bring laundry hanging outside indoors. The government had also issued a warning to avoid contact with rain water and if exposed to wash with clean water, given the rainy weather expected in southern Tohoku and Kanto regions. On 25 March, Chief Cabinet Secretary of Japan advised residents to voluntarily evacuate from within the 20 km to 30 km radius from Fukushima Daiichi Nuclear power plant, in view of the difficult living conditions in the area.

## Food safety and drinking-water quality

**Monitoring and risk management actions - Japan**

As of 17 March, all local food safety inspection authorities were directed to monitor/investigate radionuclide levels in foods for identification/prevention of potential food safety risks associated with radioactive nuclide contaminations. The notice indicates the provisional regulation values for radionuclide in different types of foods. Foods that exceed these levels are regulated under the *Food Sanitation Act*. As such, actions to prevent consumption of foods that exceed the provisional levels must be applied.

In addition to these measures, Table 7 outlines the restrictions that are in place following Article 20.3 of the *Act on Special Measures Concerning Nuclear Emergency Preparedness (Act No. 156, 1999)*.

**Table 7: Restrictions that are in place following Article 20.3 of the *Act on Special Measures Concerning Nuclear Emergency Preparedness (Act No. 156, 1999)***

| Prefecture | Risk Management Action |
|---|---|
| Fukushima | Consumption and distribution of all leafy vegetables (spinach, komatsuna, cabbage, parsley), flowerhead brassicas (broccoli, cauliflower), and milk produced in Fukushima (n.b milk and turnip – distribution limited only) have been stopped. |
| | Voluntary ban (which has been implemented) on consumption and distribution for all agricultural products from <30 km from Daiichi (implemented 19 March) |
| Ibaraki | Consumption and distribution of all spinach, kakina, parsley and milk produced in Ibaraki have been stopped. |
| Gunma | Consumption and distribution of all spinach and kakina in Gunma have been stopped. |
| Tochigi | Consumption and distribution of all spinach and kakina in Tochigi have been stopped. |

Information from Chiba and Tochigi Prefecture websites indicate that distribution has been stopped for Garland Chrysanthemum in Asahi City, Tako-cho (Chiba) and in Tochigi Prefecture.

Food sampling results have been received from Gunma, Fukushima, Chiba, Ibaraki, Kanagawa, Nagano, Niigata, Saitama, Tochigi, Tokyo, Yamagata Prefectures. A total of 353 milk, produce and other food samples results have been obtained from the MHLW from 19 to 24 March. Tables 8 and 9 provide a summary of the results received to date. (Please note that as of 25 March, WPRO is no longer using data gained from Prefecture level websites[1]).

**Table 8: Food sampling results from MHLW for radioactive cesium or iodine, 16-24 March**

| Prefecture | No. samples above provisional regulation value* | No. samples tested | No. above limit (%) |
|---|---|---|---|
| Chiba | 1 | 7 | 14 |
| Fukushima | 42 | 127 | 33 |
| Gunma | 3 | 20 | 15 |
| Ibaraki | 31 | 108 | 29 |
| Kanagawa | 0 | 3 | 0 |
| Nagano | 0 | 3 | 0 |
| Niigata | 0 | 28 | 0 |
| Saitama | 0 | 13 | 0 |
| Tochigi | 7 | 30 | 23 |
| Tokyo | 1 | 13 | 8 |
| Yamagata | 0 | 1 | 0 |
| Total | 85 | 353 | 24 |

* Provisional regulation value for Iodine-131: Milk (300 Bq/kg), Vegetables (2000 Bq/kg), Radioactive caesium: Milk (300 Bq/kg), Vegetables, Grains, Meat, Eggs, Fish (500 Bq/kg).

**Table 9: Food sampling results from MHLW for radioactive iodine and cesium, 16 -24 March**

| | Iodine – 131 | | | Caesium (134 and 137) | | |
|---|---|---|---|---|---|---|
| No. samples tested | No. samples above provisional regulation value* # | No. samples tested | No. above limit (%) | No. samples above provisional regulation value * # | No. samples tested | No. above limit (%) |
| Milk | 23 | 118 | 19 | 1 | 118 | 1 |
| Produce | 56 | 227 | 25 | 42 | 227 | 19 |
| Meat, egg, and fish | 0 | 8 | 0 | 0 | 8 | 0 |
| Total | 79 | 345 | 23 | 43 | 353 | 12 |

* Provisional regulation value for Iodine-131: Milk (300 Bq/kg), Vegetables (2000 Bq/kg), Radioactive caesium: Milk (300 Bq/kg), Vegetables, Grains, Meat, Eggs, Fish (500 Bq/kg). # One sample may have more than one result (i.e. when one sample exceed the value for both nuclides).

[1] Please note that Nagano was incorrectly named in previous Sitreps as having a sample exceeding the provisional regulation values. The sample of concern originated from another prefecture and the data has since been corrected.

On 23 March, Miyagi, Yamagata, Saitama, Chiba, Niigata and Nagano Prefectures were instructed to extend monitoring tests for agricultural and livestock products (similar to what Fukushia, Ibaraki, Tochigi and Gunma have been doing).

Seafood testing has been put in place in Ibaraki and Chiba Prefectures.

Within 3.5 km from south to north and 1.5 km to east (ocean side) from Fukushima Daiichi, no commercial fishing has been allowed both prior and since the explosion at Fukushima Daiichi. Since the explosion, no ship can go inside within 30 km from Fukushima Daiichi (media).

On 22 March, the Food Safety Commission met and agreed to review the provisional regulation values.

**Monitoring and risk management actions - International**

In the Western Pacific Region, the following countries have put in place additional imported food control measures associated with imported food from Japan: Malaysia, New Caledonia, Republic of Korea and Taiwan, China (unofficial information); and Australia, China, Hong Kong, China, Philippines, and Singapore (official information). New Zealand is assessing the situation and has not put in place specific monitoring procedures associated with this event.

Australia and Singapore's imported food control measures focus on Gunma, Ibaraki, Fukushima and Tochigi. Hong Kong, China controls focus on these four prefectures plus Chiba.

Outside of the Western Pacific Region, several countries have also put in additional monitoring procedures. Of particular interest are:

European Union (EU) - All feed and food originating in or consigned from 12 prefectures of Japan (Fukushima, Gunma, Ibaraki, Tochigi, Miyagi, Yamagata, Niigata, Nagano, Yamanashi, Saitama, Tokyo and Chiba), including the four most affected by the accident have to be tested before leaving Japan and will be subject to random testing in the EU. Feed and food products from the remaining 35 prefectures will have to be accompanied by a declaration stating the prefecture of origin and will be randomly tested upon arrival in the EU.

United States Food and Drug Administration (US FDA) – All milk and milk products and vegetables and fruits produced or manufactured from the four Japanese prefectures of Fukushima, Ibaraki, Tochigi and Gunma will be detained upon entry into the United States. They will not be allowed to enter the United States of America food supply, unless shown to be free from radionuclide contamination, with the exception of the specific products restricted by the Government of Japan. Those products will be refused admission into the United States of America.

Other food products from this area, including seafood, although not subject to the Import Alert, will be diverted for testing by FDA before they can enter the food supply. FDA will also be monitoring and testing food products, including seafood, from other areas of Japan as appropriate.

Member States continue to receive updates through the International Food Safety Authorities Network (INFOSAN) and have been requested to report results undertaken on imported food from Japan. Japan is informed of these findings through INFOSAN and WPRO.

Frequently asked questions on the food contamination issues have been updated and are available at: http://www.wpro.who.int/media_centre/jpn_earthquake/FAQs/faqs_foodcontamination.htm

**Drinking water quality**

The MHLW issued a press release dated 24 March (posted on the web in English on 26 March) informing the results of radioactive materials survey on tap water in Ibaraki Prefecture. Based on the results, MHWL requested that Kita-Ibaraki-shi (city), Hitachi-shi (city), and Kasama-shi (city) inform residents to refrain from having infants drink tap water. The results of the survey conducted from 23 to 24 March by Ibaraki Prefecture on radioactive materials in tap water at 15 points within the prefecture and by Kasama-shi (city)/Ibaraki Prefecture at 4 places within the city ranged from 116.1 to 298 Bq/kg Iodine-131. The findings exceed the "Index values for infants (radioactive iodine)".

The MHLW also issued a press release dated 24 March (posted on the web in English on 26 March) informing the results of radioactive materials survey on tap water in Chiba and Fukushima Prefectures. Based on the results, MHLW requested that Matsudo-shi (city), in Chiba Prefecture, inform residents to refrain from having infants drink tap water. The results of the survey conducted on 23 March by Chiba Prefecture on radioactive materials in tap water at 3 points within the prefecture and by the Government's Nuclear Emergency Response Headquarters at 4 places within Fukushima Prefecture range from 180 to 220 Bq/kg Iodine-131. The findings exceed the "Index values for infants (radioactive iodine)".

Fukushima-ken Environmental Radioactivity Monitoring Center continued to monitor radioactivity in tap water at 5 points within the prefecture on a daily basis since 16 March. Apart from one sample on 16 March, cesium has not been detected in any sample tested. Iodine-131 measurements have been on a downward trend, consistently below 100 Bq/kg from 19 March to present.

MEXT continued to report radioactivity readings in tap water sampled in major cities in 47 prefectures. Results for the period 20-24 March, for some locations, are summarized in the table below. All readings are below reference values. (Note: Not all 47 prefectures are listed in the table. Prefectures where readings have been below detectable limits have been omitted.

As of 25 March, restriction against drinking water for all residents is in place in Iidate-mura (Fukushima). Restriction against drinking water for infants is in place in Fukushima (Date city, Koriyama city, Tamura city, Minamisoma city, Kawamata city, Iwaki city, Tokai city, Hitachiota city), Ibaraki (Kitaibaraki city, Hitachi city, Kasama city, Furukawa city), and Chiba (Kitachiba city) prefectures. In other prefectures, Iwate, Akita, Yamagata, Tochigi, Gunma, Saitama, Chiba, Niigata, Kanagawa, Yamanashi, Shizuoka, and Tokyo prefectures all reported levels lower than the 100Bq/kg limit on 25 March.

**Table 10: Reading of radioactivity level in drinking-water by prefecture**

| Place | I-131 (Bq/kg) | | | | | | Cs-134, Cs-137 (Bq/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 Mar | 21 Mar | 22 Mar | 23 Mar | 24 Mar | 25 Mar | 20 Mar | 21 Mar | 22 Mar | 23 Mar | 24 Mar | 25 Mar |
| Iwate (Morioka City) | ND | ND | 3.4 | 9.3 | 1.5 | 0.54 | ND | ND | ND | 0.13 | ND | ND |
| Akita (Akita City) | ND | ND | 0.76 | 2.0 | 1.2 | 0.83 | ND | ND | ND | ND | ND | ND |
| Yamagata (Yamagata City) | ND | ND | 3.9 | ND | 1.5 | 1.90 | ND | ND | ND | ND | 0.43 | ND |
| Ibaraki | 12 | 58 | 12 | 24 | 2.2 | 78.0 | 0.48 | 18 | 4.8 | 3.3 | 1.1 | ND |
| Tochigi (Utsunomiya City) | 10 | 13 | 15 | 56 | 110 | 36.0 | 2.8 | 6 | 5.3 | 9.3 | 9.3 | 7.6 |
| Gunma (Maebashi City) | 5.9 | 4.7 | 9.3 | 7.0 | 8.0 | 6.4 | 1.2 | 0.72 | 0.37 | 0.72 | 0.55 | 1.0 |
| Saitama (Saitama city) | 2.0 | 3.4 | 9.2 | 12 | 18 | 24.0 | ND | ND | ND | 0.32 | 0.82 | 1.0 |
| Chiba (Ichihara City) | 0.68 | 0.59 | 0.48 | 7.8 | 13 | 13.0 | ND | ND | ND | ND | ND | 0.27 |
| Niigata (Niigata City) | 3.6 | 3.2 | 3 | 7.8 | 7.5 | 7.1 | ND | ND | ND | ND | ND | ND |
| Kanagawa (Chigasaki City) | ND | - | 0.93 | 0.75 | 1.0 | 4.9 | ND | ND | ND | ND | ND | ND |
| Yamanashi (Kofu City) | 0.24 | ND | ND | ND | 0.22 | ND | ND | ND | ND | ND | ND | ND |
| Shizuoka (Shizuoka City) | ND | ND | 0.14 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Tokyo (Shinjuku ward) | 2.9 | 5.3 | 19 | ND | 26 | 32.0 | ND | 0.22 | 0.31 | 1.5 | 2.4 | 2.1 |

## WHO/WPRO RESPONSE

- WPRO Situation room is on 24/7 operation to collect information and to monitor the evolving events, in communication and coordination with MHLW, WHO Kobe Centre, the WHO Headquarters and partners.
- WPRO has been closely working with the National IHR Focal Point in Japan and the WHO Headquarter to facilitate sharing of information through the IHR Event Information Site (EIS) that is open to all the Member States.
- WPRO has been providing regular situation reports, including situation updates that have been posted on the WHO websites.
- Dr H. Ogawa, Team Leader Environmental Health of WHO/WPRO completed his mission to Japan.
- Technical advice is being provided to address the issue related to potassium iodide prophylaxis, food safety and drinking water. FAQs are proactively developed based on inquiries from the countries, partners and the general public.
- "Forward" planning is ongoing to identify direct and indirect health and other impacts, expectations/concerns from the public/media, Member States, international communications and partners, and to prepare for possible WHO actions in responding to different scenarios.

## TRAVEL AND TRADE ADVISORIES

A number of countries have taken various measures related to travel, screening and trade, including travel advice for their citizens to and from Japan (especially the affected areas), food testing and restriction from the radiation-affected areas in Japan, and passenger screening.

China reported the detection of "abnormal" radioactivity levels of two Japanese passengers from Japan to China on 23 March. According to the news reports, the two passengers were living in Nagano Prefecture and Saitama Prefecture respectively in Japan and had not left their prefecture after the earthquake. The measures implemented included the decontamination and radiation injury treatment at the designated hospital for nuclear/radiation contamination and medical treatment. According to local experts, the radiation contamination levels of the two passengers would not have health effect on the passengers and others.

WHO's recommendation and advice on international travel remains the same at this time: WHO is not advising general restrictions on travel to Japan. The International Civil Aviation Organization (ICAO), on behalf of the International Atomic Energy Agency (IAEA), International Maritime Organization (IMO), the World Health Organization (WHO) and the World Meteorological Organization (WMO), issued a joint statement on the continued safety of air transport operations in Japan.

These five organizations confirmed that there are no restrictions to normal air transport operations at Japan's major airports, including both Haneda and Narita.

The ICAO statement further confirmed that there are no health reasons that would require the screening of passengers emanating from Japan. Moreover, the Organizations confirmed that there is no health risk associated with increased levels of radiation that have been detected at some airports.

## RISK COMMUNICATION

### Updates from monitoring mainstream and social media

- Japanese Prime Minister Naoto Kan said the situation at the Fukushima nuclear complex, 240 km (150 miles) north of Tokyo, was "nowhere near" being resolved. (Reuters)
- Underscoring growing international concern, UN Secretary-General Ban Ki-moon called a high-level meeting to "take stock of the international response to the latest developments" in Japan and encouraged countries "to consider lessons learned" and to strengthen nuclear safety. (Reuters)

### WHO Actions

- Updates on the situation on HQ web site: http://www.who.int/hac/crises/jpn/updates/update_20110325/en/index.htm
- Updates on water quality FAQs

## CONTACTS FOR MORE INFORMATION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