

**MLIT****Ministry of Land, Infrastructure, Transport and Tourism**
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25th April 2011

Mr E E Mitropoulos
Secretary-General
International Maritime Organization
4 Albert Embankment
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Dear Sir

**Current Situation of Ports and Shipping in Japan
after the Fukushima Dai-ichi Nuclear Power Plant Accident**

We should like to express our sincere appreciation to you and the IMO secretariat for the timely manner in which you have notified IMO Members and relevant organisations of the situation for travel and transport to and from Japan following the Great East Japan Earthquakes.

The Ministry of Land, Infrastructure, Transport and Tourism in Tokyo has now released a detailed update of current maritime and port conditions in Japan in relation to the Fukushima Dai-ichi nuclear power plant. A copy of this is enclosed herewith.

It would be appreciated if this could be circulated to all IMO Members and relevant organizations.

Yours faithfully

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Current Situation of Ports and Shipping in Japan after the Fukushima Dai-ichi Nuclear Power Plant Accident

25th April, 2011

Maritime Bureau/Ports and Harbors Bureau
Ministry of Land, Infrastructure, Transport and Tourism

1. Great East Japan Earthquake

The massive 9.0 magnitude earthquake that struck off the coast of eastern Japan on 11 March 2011 and the ensuing tsunami claimed the lives of at least 14,000 people. There are still 12,000 people missing, with around 130,000 still living in temporary shelters. Port facilities, shipyards and maritime shipping operations have been severely affected, with shipping lanes being disrupted by floating debris. At Fukushima Dai-ichi Nuclear Power Plant, meanwhile, Japan is mobilizing all available resources and making every effort to bring the situation under control as quickly as possible.

Japan has received a great deal of generous support since the earthquake. Over 130 national and regional governments, nearly 40 international agencies, large numbers of non-governmental organizations and individuals worldwide have rushed to lend a hand, from dispatching relief workers and providing recovery and medical assistance to sending out emergency supplies, giving donations and providing expert assistance with the nuclear accident. At the same time, the IMO has continued to provide quick and accurate updates on ports and shipping in Japan. Japan would once again like to extend our heartfelt gratitude to the IMO and all those around the world who have provided support.

2. Fukushima Dai-ichi Nuclear Power Plant

(1) Response from international agencies and organizations

The United Nations organization, such as the International Civil Aviation Organization (ICAO), the World Health Organization (WHO), the International Atomic Energy Agency (IAEA), the World Meteorological Organization (WMO) and the International Labour Organization (ILO), closely monitoring the effects of the damaged Fukushima Dai-ichi Nuclear Power Plant remain confident that current radiation levels do not present health or transportation safety hazards to passengers or crew. The IMO has issued a number of press releases on the subject, including a circular stating the following on April 15 (No. 3175/Rev.2).

“Radiation monitoring around airports and seaports in Japan continues to confirm that levels remain well within safe limits from a health perspective. In addition, monitoring of passengers, crew and cargo from Japan carried out to date in other countries, in accordance with their national policy, does not suggest any health or safety risk. Therefore, screening of radiation for health and safety purposes is currently considered unnecessary at airports and seaports around the world.”

(2) Area around the Fukushima Dai-ichi Nuclear Power Plant

The Japan Coast Guard has issued a navigation warning which designated a restricted area within 20 kilometers radius from the Fukushima Dai-ichi Nuclear Power Plant including the sea area based on the Act on Special Measures Concerning Nuclear Emergency Preparedness, while permitting entry into waters between 20 and 30 kilometers radius of the Fukushima Dai-ichi Nuclear Power Plant subject to preparedness for emergency evacuation.

It should be noted that, monitoring of ambient radiation dose rate at 20km or more far from Fukushima Dai-ichi Nuclear Power Plant found a relatively higher dose rate locally at several measuring points of inland area. It however does not reach the level that affects people's health.

Japan will continue to conduct environmental monitoring, paying close attention to factors such as weather conditions.

3. Major Japanese ports

Japan has stepped up environmental monitoring in response to the accident at Fukushima Daiichi Nuclear Power Plant.

(1) Ambient radiation

With the exception of the area around Fukushima Daiichi Nuclear Power Plant, ambient radiation levels in major Japanese cities are not deemed sufficient to pose any risk to human health. Comparisons indicate that radiation levels at major port cities in Japan are at roughly the same level as port cities in Europe (Figure 1).

(2) Radioactive concentration of seawater

The latest periodical measurements for the radioactive concentration of seawater on the surface layer 30 kilometers from Fukushima Dai-ichi Nuclear Power Plant indicate that the maximum concentration for I-131 and Cs-137 are:

April 19: 18.8 Bq/L and 31.6 Bq/L respectively;

April 21: Non detective

Radioactive materials emitted into the seawater will be diluted since it is diffused along the tidal currents before ingested by fish, seaweed or other forms of marine life.

The Port of Soma, the nearest international port to Fukushima Daiichi Nuclear Power Plant, is 40 kilometers from the site, thus unlikely to be affected.

4. Safety checks in Tokyo Bay

Although radiation levels are not deemed sufficiently high to pose any risk to human health, except for the area around Fukushima Daiichi Nuclear Power Plant, Japan is nonetheless putting in place the following measures in Tokyo Bay, which has a high volume

of international container traffic, in an effort to remove any concerns regarding the radioactive contamination of vessels and cargo departing Japanese ports.

(1) Japan has published multilingual information regarding ambient radiation levels at the main port cities around Tokyo Bay (Tokyo, Yokohama, Kawasaki and Chiba) via the Ministry of Land, Infrastructure, Transport and Tourism’s website since immediately after the accident. Tokyo and Yokohama are located approximately 230 kilometers and 250 kilometers from Fukushima Dai-ichi Nuclear Power Plant, respectively. Table 1 shows measured doses in Tokyo and Yokohama. For instance, the maximum level of ambient radiation from the external terrestrial source in Tokyo as of 25 April was 0.070 micro-sieverts, which is equivalent to an annual dose of 610 micro-sieverts, whereas the estimated annual global average exposure from external terrestrial is 480 micro-sieverts. Thus, the measured radiation levels at Tokyo and Yokohama are almost as same as the annual global average external terrestrial exposure. (Figure 1 and Figure 2)

Table 1: Measured doses in Tokyo and Yokohama (as of April 25)

Location	External terrestrial only			External terrestrial and Cosmic radiation		
	Measured (μSv/hour)	Calculated Annual Dose (μSv)	Global average ^(a) (μSv)	Measured (μSv /hour)	Calculated Annual Dose (μSv)	Global average ^(a) (μSv)
Tokyo (Shinjyuku)	0.070	610	480	—	—	870
Port of Tokyo	—	—		0.09 - 0.11	790 - 960	
Yokohama (Isogo)	0.034	300		—	—	
Port of Yokohama	—	—		0.08 - 0.12	700 -1,051	

(a) United Nations Scientific Committee on the Effects of Atomic Radiation, UNSCEAR 2008 Reports to the General Assembly with Scientific Annexes. The reports also show that annual global average per caput dose from natural source and artificial source is 3,000 micro-sieverts.

(2) Japan has been sampling seawater for the radioactive concentration in Tokyo Bay, publishing the results on the website. The radioactive concentration of seawater at the Port of Tokyo on 25 April, as well as at the Port of Yokohama on 18 April, was non-detective, thus the radioactive concentration shows no specific anomaly.

(3) The Ministry of Land, Infrastructure, Transport and Tourism has developed guidelines for measuring the radiation levels of export containers and vessels in port. The guidelines provide for the certification by public entities on request by any export container or vessel leaving the Port of Tokyo or the Port of Yokohama verifying radiation levels. This is intended to publically demonstrate that there is no risk of contamination by radioactive materials at either of these ports.

5. Final remarks

Japan would like to once again extend our gratitude to all the countries around the world that have provided assistance in dealing with the predicament caused by the earthquake in eastern Japan and damage to Fukushima Daiichi Nuclear Power Plant. Japan will continue to monitor levels of radiation in the air and sea and check export containers and vessels leaving Japan so as to ensure that Japanese ports and cargo do not pose any risk to human health. Japan is also committed to sharing our findings with the world maritime community, by publishing data online and issuing certificates.

Japan would like to encourage every country and maritime organization to remain calm and act rationally based on published scientific data.

(References)

Further information is available on the following pages.

http://www.mlit.go.jp/page/kanbo01_hy_001423.html

http://www.mlit.go.jp/en/maritime/maritime_frl_000007.html

http://www.mlit.go.jp/kowan/kowan_frl_000041.html

Figure 1

Readings of Environmental Radioactivity Level (Unit: $\mu\text{Sv/h}$)

Update 2011/04/25

200km

Radiation level in the World;

- ⑧Rotterdam 0.0665
- ⑨Antwerp 0.0912
- ⑩Hamburg 0.0751

1500km

600km

400km

200km

⑤Kobe
0.040

Usual Value Band
0.035~0.076

NAVTEX NO.11-1189 Date:2011/04/25 21
 HONSHU, E COAST. FUKUSHIMA PREF COAST.
 RESTRICTED AREA DESIGNATED ETC.
 A. RESTRICTED AREA.
 WITHIN 20 KILOMETRES OF FUKUSHIMA NR 1 NUCLEAR
 POWER PLANT, 37-25.5N 141-02.0E, BASED ON ACT ON
 SPECIAL MEASURES CONCERNING NUCLEAR EMERGENCY
 PREPAREDNESS AT 211500Z APR.
 B. EMERGENCY REFUGE PREPARATION AREA.
 WITHIN BETWEEN 20 KILOMETRES AND 30 KILOMETRES OF
 FUKUSHIMA NR 1 NUCLEAR POWER PLANT.
 VESSELS REQUESTED TO ENTER WITH PREPARATION THAT
 REFUGE IS POSSIBLE IN EMERGENCY.

Fukushima
Dai-ichi NPP

②Sendai
0.086

Usual Value Band
0.0176~0.0513

④Nagoya
0.044

Usual Value Band
0.035~0.074

③Tokyo
0.072

Usual Value Band
0.028~0.079

⑥Fukuoka
0.037

Usual Value Band
0.034~0.079

⑦Okinawa Usual Value Band
0.022 0.0133~0.0575

“Some prefectures showed a higher value compared with the average values obtained before the accident; however, it will not affect people’s health.” (Nuclear Safety Commission Press Release 2011/4/24)

According to “Sources and Effects of Ionizing Radiation, UNSCEAR 2008”, annual global average external exposure(external terrestrial) is estimated as 480 micro-sieverts in the total annual exposure of 3,000 micro-sieverts.

The maximum level of ambient radiation at Tokyo as of 25 April was 0.072 micro-sieverts, which is equivalent to an annual dose of 631 micro-sieverts. The radiation levels at Tokyo is almost as same as the annual global average external exposure.

The indicated radioactivity level is the maximum hourly value in a day.
<http://www.mlit.go.jp/common/000141348.pdf>

http://www.mlit.go.jp/kowan/kowan_fr1_000041.html

Measured dose

	Measurement points (Address)		Apr.25 AM	Apr.25 PM	Apr.26 AM		Annual exposure calculation
Port of Tokyo	◎	Tokyo Metropolitan Institute of Public Health (Hyakunin-cho, Shinjuku-ku, Tokyo)	70nGy/h 8:00	70nGy/h 17:00	70nGy/h 8:00	\cong 0.000070 mSv/h	0.61mSv
Port of Yokohama	☆	Environmental Science Research Institute (Takigashira, Isogo-ku, Yokohama, Kanagawa)	33nGy/h 8:00	34nGy/h 17:00	34nGy/h 8:00	\cong 0.000034 mSv/h	0.30mSv
Port of Kawasaki	△	Kawasaki Municipal Research Institute for Environmental Protection (Tajima-cho, Kawasaki-ku, Kawasaki, Kanagawa)	48nGy/h 8:00	49nGy/h 17:00	48nGy/h 8:00	\cong 0.000048 mSv/h	0.42mSv
Port of Chiba	□	Chiba Prefectural Environmental Research Center (Iwasaki-Nishi, Ichihara, Chiba)	49nGy/h 8:00	49nGy/h 17:00	50nGy/h 8:00	\cong 0.000050 mSv/h	0.44mSv

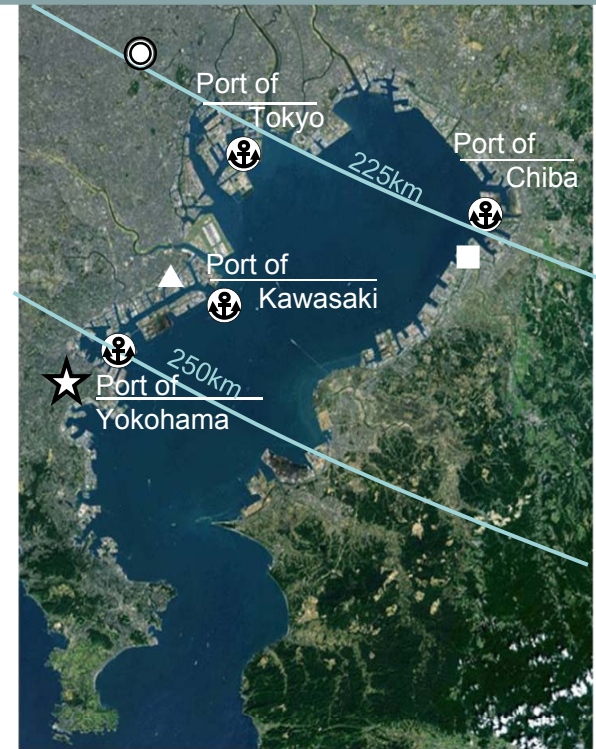
- 1) According to the website of Tokyo-Electric Power Company, the unit is converted 1 nano-Gray/hour (nGy/hr) \cong 1 nano-Sievert /hour (nSv/hr).
- 2) "Annual exposure calculation" is the estimation under the condition that the hourly radiation dose measurement at the measurement point is accumulated 24 hours throughout the year.
- 3) 1 mili-Sievert (mSv) = 1000 micro-Sievert (μ Sv)
1 micro-Sievert (μ Sv) = 1000 nano-Sievert (nSv)

According to the Ministry of Education, Culture, Sports, Science and Technology, examples of exposure level of radiation in daily life is as below.

- Chest X-ray (once) 0.05 mSv
- 1 roundtrip between Tokyo and New York by air 0.2 mSv
- Stomach X-ray (once) 0.6 mSv

According to the WHO, a person is exposed to approximately 3.0mSv/year on average.
In addition, according to the UNSCEAR, external exposure(external terrestrial) is estimated as 0.48mSv/year.

Distance from Fukushima No1 Nuclear Plant



References;

◎	Tokyo Metropolitan Institute of Public Health Website (Japanese only) http://www.tokyo-eiken.go.jp/monitoring/index.html
☆	City of Yokohama, Environmental Planning Bureau Website(Japanese only) http://www.city.yokohama.lg.jp/kankyo/saigai/
△	City of Kawasaki Website(Japanese only) http://www.city.kawasaki.jp/e-news/info3715/index.html
□	Chiba Prefecture Government Website(Japanese only) http://www.pref.chiba.lg.jp/index.html