Status of the Fukushima Daiichi Nuclear Power Plant
Updated information (21-04-2011 at 1300hrs)

(Prepared by Health Safety & Environment Group)

1. Current Situation

Overall, the situation at the Fukushima Daiichi nuclear power plant remains very serious, but there are early signs of recovery in some functions, such as electrical power and instrumentation.

Management of On-Site Contaminated Water

TEPCO has provided a plan to NISA for the transfer of highly contaminated water from the basement of the turbine building of Unit 2 to the main building of the radioactive waste treatment facilities, to reduce the risk of this stagnant waste water being discharged to the environment. Measures to ensure that the radioactive waste treatment facility is watertight were completed on 18 April and the transfer of water from Unit 2 was commenced on 19 April.

Plant Status

Work to strengthen the electrical power system between Units 1 - 2 and Units 3 - 4 was completed on 19 April. White "smoke" continues to be emitted from Units 2, 3 and 4.

In Unit 1 fresh water is being continuously injected into the reactor pressure vessel through the feedwater line at an indicated flow rate of 6 m^3/h using a temporary electric pump with off-site power. In Units 2 and 3 fresh water is being continuously injected into the reactor pressure vessel through the fire extinguisher line at an indicated rate of 7 m^3/h using a temporary electric pump with off-site power. In Unit 4 fresh water continues to be sprayed onto the spent fuel pool using a concrete pump truck.

Nitrogen gas is being injected into the containment vessel in Unit 1 to reduce the possibility of hydrogen combustion within the containment vessel. The pressure in the containment vessel has stabilized. The pressure in the reactor pressure vessel is increasing.

The reactor pressure vessel temperatures in Unit 1 remain above cold shutdown conditions. The indicated temperature at the feedwater nozzle of the reactor pressure vessel is 164 °C and that at the bottom of reactor pressure vessel is 114 °C.

The reactor pressure vessel temperatures in Unit 2 remain above cold shutdown conditions. The indicated temperature at the feed water nozzle of the reactor pressure vessel is 133 °C. The reactor pressure vessel and the dry well remain at atmospheric pressure.

The temperature at the bottom of the reactor pressure vessel in Unit 3 remains above cold shutdown conditions. The indicated temperature at the feed water nozzle of the reactor pressure vessel is 99 °C and that at the bottom of reactor pressure vessel is 110 °C. The reactor pressure vessel and the dry well remain at atmospheric pressure.

There has been no change in the status in Units 5 and 6 or in the common spent fuel storage facility.

2. Radiation Monitoring

On 19 April, deposition of I-131 was detected in 13 prefectures, ranging from 1.8 to 368 Bq/m^2. Deposition of Cs-137 was detected in seven prefectures, the values reported ranging from 2.4 to 160 Bq/m^2.

Gamma dose rates are measured daily in all 47 prefectures. For Fukushima on 20 April a gamma dose rate of 1.9 µSv/h was reported, and for Ibaraki prefecture a gamma dose rate of 0.13 µSv/h was reported. In all other prefectures, reported gamma dose rates were below 0.1 µSv/h.

In cooperation with local universities, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) has set up an additional monitoring programme. For 19 April, measurements of the gamma dose rates were reported for 53 cities in 40 prefectures. In Fukushima City a value of 0.42 µSv/h was reported. For all other cities reported gamma dose rates were below 0.13 µSv/h.

In drinking water, I-131 or Cs-137 is detectable, but at levels below 1 Bq/L and in only a few prefectures. As of 17 April, one restriction on drinking water for infants relating to I-131 (100 Bq/L) is in place in a small scale water supply in a village of the Fukushima prefecture.

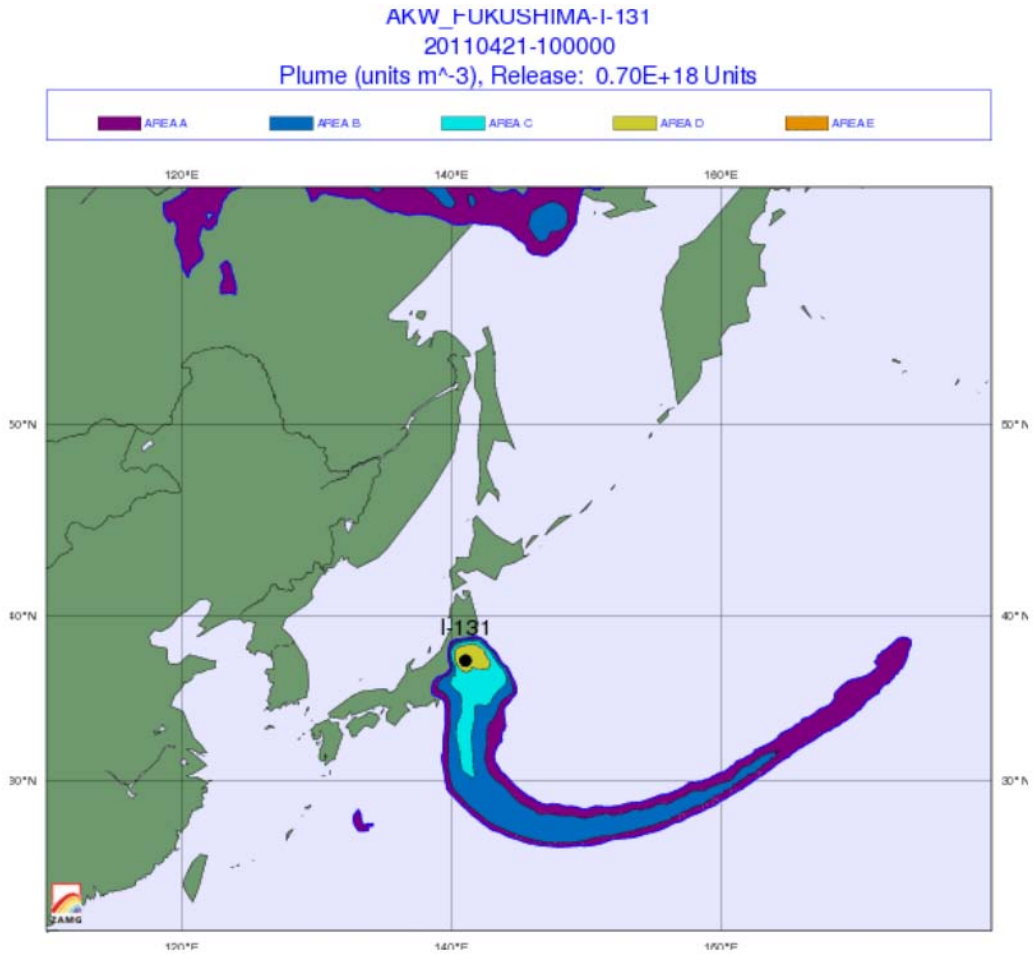
Food monitoring data reported by the Japanese Ministry of Health, Labour and Welfare on 19 April covered a total of 36 samples. These were taken on 4, 18 and 19 April from eight prefectures (Chiba, Fukushima, Gunma, Ibaraki, Kanagawa, Nagano, Niigata and Saitama). Analytical results for 35 of the samples of various vegetables, shiitake mushrooms, fruit (strawberries), edible shoots (Japanese Angelica tree), seafood, yoghurt and unprocessed raw milk indicated that I-131, Cs-134 and Cs-137 were either not detected or were below the regulation values set by the Japanese authorities. One sample of seafood (sand lance) taken on 18 April from the coastal region of Fukushima had levels above the regulation values set by the Japanese authorities for I-131 and also for radioactive caesium.

Environmental Data

1. Wind direction and wind speed (Persisting & prediction)

Date	Day	Wind direction	Wind speed (mph)
21st April 2011	Thursday	SE	3
22nd April 2011	Friday	SW	11
23rd April 2011	Saturday	S	19
24th April 2011	Sunday	E	12

Plume behaviour on 21/04/2011 at 10:00 hrs



Updated Environmental monitoring data from ESLs

Sampling Sites	Date of collection	Air (Bq.m^{-3})		Water (Bq.l^{-1})		Vegetables (Bq.kg^{-1} fresh wt.)	
		I-131	Cs-137	I-131	Cs-137	I-131	Cs-137
Tarapur	18/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Jaduguda	18/4/11	-	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Chhatrapur	18/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Hyderabad	18/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Mumbai	18/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Kakrapara	19/4/11	< 0.002	< 0.002	-	-	< 0.3	< 0.3
Kaiga	19/4/11	< 0.002	< 0.002	< 0.1	< 0.1	-	-
Jaduguda	19/4/11	-	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Chhatrapur	19/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Hyderabad	19/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3
Mumbai	19/4/11	< 0.002	< 0.002	< 0.1	< 0.1	< 0.3	< 0.3

No detectable activity was observed in any of the locations.

Radiation data reported by IERMON from selected locations in India

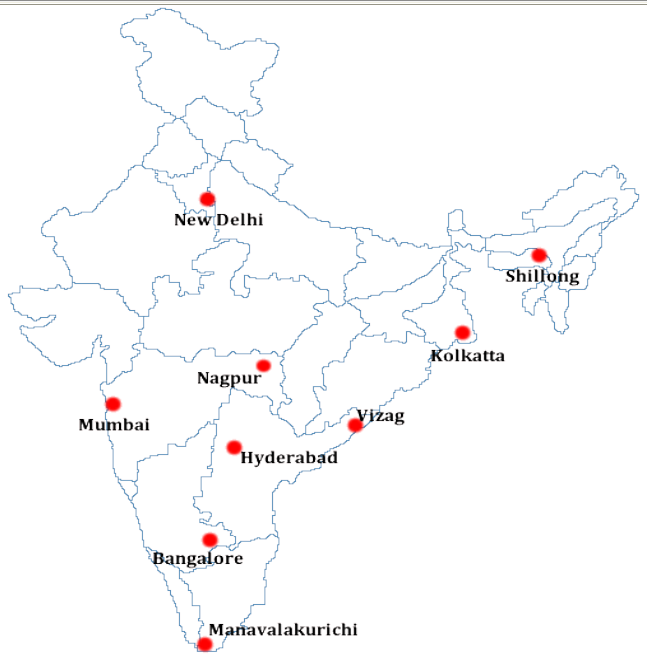
21-04-2011 (Morning)

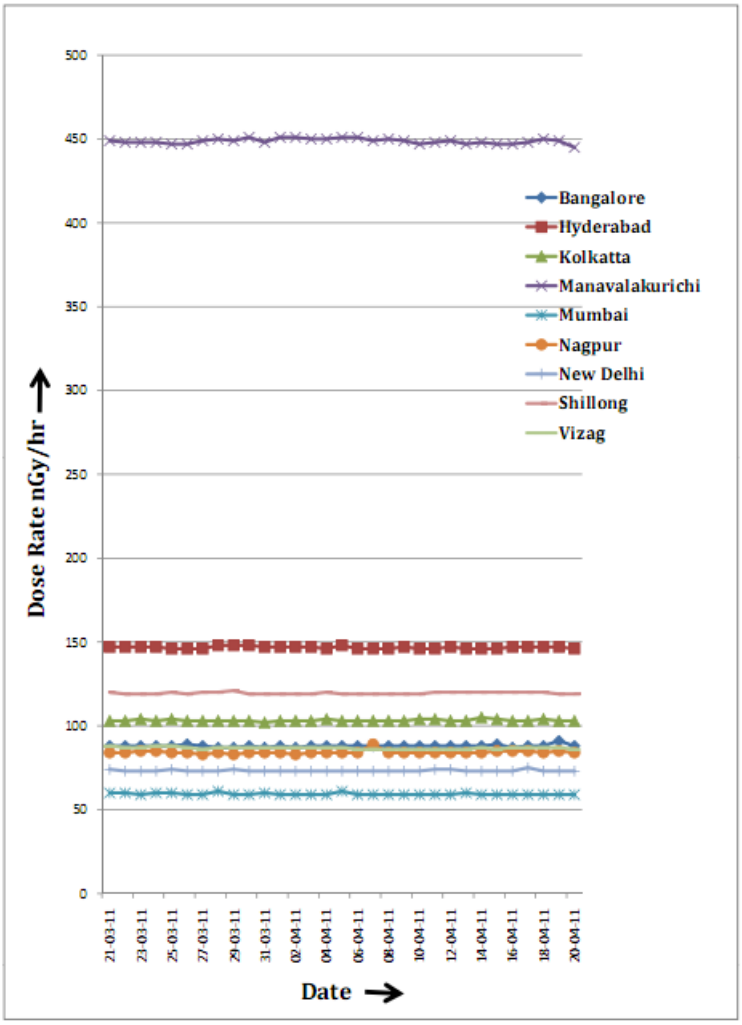
Place	* Dose Rate in nGy/hr 20-04-2011 (Average observed)	* Dose Rate in nGy/hr 20-04-2011 (Maximum observed)	Dose Rate in nGy/hr March 2011		
			Average	Minimum observed	Maximum observed
Bangalore	**88**	89	88	84	92
Hyderabad	**146**	148	147	142	153
Kolkata	**103**	104	103	87	121
Manavalakurichi #	**445**	452	451	432	461
Mumbai	**59**	61	60	57	79
Nagpur	**84**	85	84	80	91
New Delhi	**73**	74	73	70	75
Shillong	**119**	120	120	113	130
Vizag	**86**	87	87	85	92

Indian Average Dose Rate:	**88 nGy/hr ****	World Average Dose Rate:	**97 nGy/hr ****

* Average data of 12 hour duration from 12.00 hours on 20-04-2011 to 23.00 hours on 20-04-2011
\# High natural background radiation area
** Literature reported average values

Note: There is no increase in the gamma dose rate above the normal background.




500
450
400
350
300
250
200
150
100
50
0
Dose Rate nGy/hr
Bangalore
Hyderabad
Kolkatta
Manavalakurichi
Mumbai
Nagpur
New Delhi
Shillong
Vizag
21-03-11
23-03-11
25-03-11
27-03-11
29-03-11
31-03-11
02-04-11
04-04-11
06-04-11
08-04-11
10-04-11
12-04-11
14-04-11
16-04-11
18-04-11
20-04-11
Date