

Fukushima Nuclear Accident Update Log

Updates of 27 March 2011

Staff Report

→ **Chronology of Daily Updates:**

27 March | 26 March (<http://domain.com/newscenter/news/2011/fukushima260311.html>) | 25 March
(<http://domain.com/newscenter/news/2011/fukushima250311.html>) | 24 March
(<http://domain.com/newscenter/news/2011/fukushima240311.html>) | 23 March
(<http://domain.com/newscenter/news/2011/fukushima230311.html>) | 22 March
(<http://domain.com/newscenter/news/2011/fukushima220311.html>) | 21 March
(<http://domain.com/newscenter/news/2011/fukushima210311.html>) | 20 March
(<http://domain.com/newscenter/news/2011/fukushima200311.html>) | 19 March
(<http://domain.com/newscenter/news/2011/fukushima190311.html>) | 18 March
(<http://domain.com/newscenter/news/2011/fukushima180311.html>) | 17 March
(<http://domain.com/newscenter/news/2011/fukushima170311.html>) | 16 March
(<http://domain.com/newscenter/news/2011/fukushima160311.html>) | 15 March
(<http://domain.com/newscenter/news/2011/fukushima150311.html>) | 14 March
(<http://domain.com/newscenter/news/2011/fukushima140311.html>) | 13 March
(<http://domain.com/newscenter/news/2011/fukushima130311.html>) | 12 March
(<http://domain.com/newscenter/news/2011/fukushima120311.html>) | 11 March
(<http://domain.com/newscenter/news/2011/fukushima110311.html>) | Full Update
(<http://domain.com/newscenter/news/2011/fukushimafull.html>)



[IAEA Briefing on Fukushima Nuclear Accident \(27 March 2011, 13:30 UTC\)](#)

1. Current Situation

The situation at the Fukushima Daiichi plant remains very serious.

The restoration of off-site power continues and lighting is now available in the central control rooms of **Units 1, 2 and 3**. Also, fresh water is now being injected into the Reactor Pressure Vessels (RPVs) of all three Units.

Radiation measurements in the containment vessels and suppression chambers of **Units 1, 2 and 3** continued to decrease. White "smoke" continued to be emitted from **Units 1 to 4**.

Pressure in the RPV showed a slight increase at **Unit 1** and was stable at **Units 2 and 3**, possibly indicating that there has been no major breach in the pressure vessels.

At **Unit 1**, the temperature measured at the bottom of the RPV fell slightly to 142 °C. At **Unit 2**, the temperature at the bottom of the RPV fell to 97 °C from 100 °C reported in the Update provided yesterday. Pumping of water from the turbine hall basement to the condenser is in progress with a view to allowing power restoration activities to continue.

At **Unit 3**, plans are being made to pump water from the turbine building to the main condenser but the method has not yet been decided. This should reduce the radiation levels in the turbine building and reduce the risk of contamination of workers in the turbine building restoring equipment.

No notable change has been reported in the condition of **Unit 4**.

Water is still being added to the spent fuel pools of **Units 1 to 4** and efforts continue to restore normal cooling functions.

Units 5 and 6 remain in cold shutdown.

We understand that three workers who suffered contamination are still under observation in hospital.

2. Radiation Monitoring

Dose rates at the Fukushima site continue to trend downwards.

In 28 of the 45 prefectures for which data are available, no deposition of radionuclides was detected in the period 18 to 25 March. In seven of the other 17 prefectures, the estimated daily deposition was less than 500 becquerel per square metre for iodine-131 and less than 100 becquerel per square metre for caesium-137.

On 26 March, the highest values were observed in the prefecture of Yamagata: 7 500 becquerel per square metre for iodine-131 and 1200 becquerel per square metre for caesium-137. In the other prefectures where deposition of iodine-131 was reported, the daily range was from 28 to 860 becquerel per square metre. For caesium-137, the range was from 2.5 to 86 becquerel per square metre.

In the Shinjyuku district of Tokyo, the daily deposition of iodine-131 on 27 March was 220 becquerel per square metre, while for caesium-137 it was 12 becquerel per square metre.

No significant changes were reported in the 45 prefectures in gamma dose rates compared to yesterday. In general, gamma dose-rates tend to decrease due to the decay of short-lived radionuclides such as iodine-131.

Two IAEA teams are currently monitoring in Japan. One team made gamma dose-rate measurements in the Tokyo region at 8 locations. Gamma dose-rates measured ranged from 0.08 to 0.15 microsievert per hour, which is within or slightly above the normal background. The second team made additional measurements at distances of 30 to 41 km from the Fukushima nuclear power plant. At these locations, the dose-rates ranged from 0.9 to 17 microsievert per hour. At the same locations, results of beta-gamma contamination measurements ranged from 0.03 to 3.1 Megabecquerel per square metre.

The first results of aerial surveys of gamma dose-rates by the Japanese authorities have been received by the Incident and Emergency Centre. These are being analysed and will be presented when more detailed data have been received.

New data from monitoring of the marine environment, carried out from 24 March, 22:55 UTC to 25 March, 03:32 UTC about 30 km offshore, show a decrease in both caesium-137 and iodine 131. The contamination at these locations is influenced by aerial deposition of fallout as well as by the migration of contaminated seawater from the discharge points at the reactor. The measured radiation doses rates above the sea remain consistently low (between 0.04 and 0.1 microsievert per hour). The first results of model predictions received from the SIROCCO Group at the University of Toulouse are being assessed.

Recommendations relating to the restriction of drinking water consumption, based on measured concentrations of iodine-131, remain in place in seven locations (in one location for both adults and infants, and in six locations for infants).

As far as food contamination is concerned, samples taken from 23 to 25 March in five prefectures showed iodine-131 in unprocessed raw milk, but the levels were far below the regulation values set by the Japanese authorities. Caesium-137 was also detected in samples of unprocessed raw milk taken on 23 March in Chiba prefecture, but at levels far below the Japanese regulation values.

Caesium-137 was not detected in any of the samples taken from 24-25 March in the other four prefectures.

Based on samples taken on 22 and 24-25 March, three prefectures (Chiba, Ibaraki and Tochigi) reported iodine-131 in celery, parsley, spinach and other leafy vegetables above the regulation values set by the Japanese authorities. Caesium-137 was also detected above the regulation values in one sample of spinach taken on 24 March in Tochigi prefecture, but in the remaining two prefectures, the results were below regulation values.

The Joint FAO/IAEA Food Safety Assessment Team arrived in Tokyo on Saturday. It will meet regulatory officials in various prefectures where food contamination has been detected. The team left for Fukushima early today. The Mission will assist and provide advice on sampling protocols, analytical procedures, data collected to date and actions taken by the Japanese authorities for the control of contaminated foods.

→ [View Presentation \(http://www.slideshare.net/iaea/iaea-briefing-on-fukushima-nuclear-accident-27-march-2011-1330-utc\)](http://www.slideshare.net/iaea/iaea-briefing-on-fukushima-nuclear-accident-27-march-2011-1330-utc)

[Fukushima Nuclear Accident Update \(27 March 2011, 09:00 UTC\)](#)

According to the Japanese Prime Minister's office, TEPCO has begun work to remove water that has accumulated in the turbine buildings at the Fukushima Daiichi nuclear power plant. Workers have started to remove water from the Unit 1 turbine building to its main condenser and are making preparations to do the same at Unit 2. (A main condenser's function in a nuclear power plant is to condense and recover steam that passes through the turbine.) Work to remove water from the turbine buildings in Units 3 and 4 is currently under consideration.

Removal of water from the turbine buildings is an important step to continue power restoration to the plant.

The IAEA is seeking further updates from Japanese authorities on the progress of this process and will update as information becomes available.

[Fukushima Nuclear Accident Update \(27 March 2011, 03:00 UTC\)](#)

As **previously reported**, three workers at the Fukushima Daiichi nuclear power plant were exposed on 24 March to elevated levels of radiation. The IAEA has received additional information on the incident from the Japanese authorities.

For two of the three workers, significant skin contamination over their legs was confirmed. The Japanese authorities have stated that during medical examinations carried out at the National Institute of Radiological Sciences in the Chiba Prefecture, the level of local exposure to the workers' legs was estimated to be between 2 and 6 sieverts.

While the patients did not require medical treatment, doctors decided to keep them in hospital and monitor their progress over coming days.

[Fukushima Nuclear Accident Update \(27 March 2011, 01:15 UTC\)](#)

Brief Update on State of Fukushima Daiichi Reactors

AC Power-Units 1 to 4

The restoration work of off-site (i.e. grid) power is still in progress. Off-site power is now connected to Units 1 to 4.

Power distribution panels in the Power Centres of Units 2 and 4 have been connected to the off-site electricity supply, but individual components are still being checked prior to being energised.

The lighting in Units 1, 2 and 3 control rooms has been restored. Some instrumentation was recovered for Units 1, 2 and 4. However, due to the extent of damage inflicted by the earthquake and tsunami, at present it is not possible to estimate when the equipment may be returned to service.

AC Power-Units 5 and 6

Off-site power has been restored.

Unit 1

Fresh water continues to be injected into the reactor pressure vessel.

As of 25 March, 23:00 UTC, white "smoke" was confirmed to be emanating continuously from the reactor building.

Water sample taken from the stagnant water on the basement floor of the turbine building shows the presence of iodine-131, cesium-137 and cesium-134 to a level comparable to that measured in the turbine building of Unit 3 where three workers were exposed to elevated levels of radiation on 24 March.

Unit 2

Fresh water continues to be injected into the reactor pressure vessel.

As of 25 March, 23:00 UTC, white "smoke" was confirmed to be emanating continuously from the reactor building.

The spent fuel pool temperature increased and then stabilized at 57 °C as of 26 March, 00:30 UTC.

Unit 3

Fresh water is being injected into the reactor pressure vessel.

The temperature at the bottom of reactor pressure vessel has decreased to 100.4 °C on 26 March, 13:00 UTC. Seawater injection to the spent fuel pool is on-going.

White "smoke" emanating from the reactor building was still being observed as of 25 March, 23:00 UTC.

The dose rate in the reactor containment vessel and suppression chamber continued to decrease to 36.1 sieverts per hour and 1.4 sieverts per hour, respectively, as of 26 March, 13:00 UTC .

Unit 4

From March 22 to March 25, 130 to 150 tonnes of seawater was poured into the spent fuel pool each day using a concrete pump. Sea water was also poured in through the spent fuel cooling system from 24 March, 21:05 UTC to 25 March, 01:20.

White "smoke" was still being observed coming from the reactor building as of 25 March, 23:00 UTC.

Unit 5

The reactor remains in cold shutdown. Off-site power has been restored. The reactor water temperature increased to 43.8 °C.

The temperature in the spent fuel pool increased to 42.8 °C as of 26 March, 02:00 UTC.

Unit 6

The reactor remains in cold shutdown. Off-site power has been restored. The reactor pressure vessel water temperature decreased to 21.3 °C.

The spent fuel pool water temperature has slightly increased to 30.0 °C.

→ **Chronology of Daily Updates:**

27 March | [26 March](#)

<http://domain.com/newscenter/news/2011/fukushima260311.html> | 25 March

<http://domain.com/newscenter/news/2011/fukushima250311.html> | 24 March

<http://domain.com/newscenter/news/2011/fukushima240311.html> | 23 March

<http://domain.com/newscenter/news/2011/fukushima230311.html> | 22 March

<http://domain.com/newscenter/news/2011/fukushima220311.html> | 21 March

<http://domain.com/newscenter/news/2011/fukushima210311.html> | 20 March

<http://domain.com/newscenter/news/2011/fukushima200311.html> | 19 March

<http://domain.com/newscenter/news/2011/fukushima190311.html> | 18 March

<http://domain.com/newscenter/news/2011/fukushima180311.html> | 17 March

<http://domain.com/newscenter/news/2011/fukushima170311.html> | 16 March

<http://domain.com/newscenter/news/2011/fukushima160311.html> | 15 March

<http://domain.com/newscenter/news/2011/fukushima150311.html> | 14 March

<http://domain.com/newscenter/news/2011/fukushima140311.html> | 13 March

<http://domain.com/newscenter/news/2011/fukushima130311.html> | 12 March

<http://domain.com/newscenter/news/2011/fukushima120311.html> | 11 March

<http://domain.com/newscenter/news/2011/fukushima110311.html> | Full Update

<http://domain.com/newscenter/news/2011/fukushimafull.html>

Like 21K

9,855

1.5KShare