

Fukushima Dai-ichi Nuclear Power Station Major Parameters of the Plant (Data such as water level, pressure, temperature, etc.) (As of 6:00, May 8)

Unit No.	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Situation of water injection to reactor	Injecting fresh water via the Water Supply Line. Flow rate of injected water : 8.0 m <sup>3</sup> /h (As of 5:00, May 8)	Injecting fresh water via the Fire Extinguish Line. Flow rate of injected water : 7.0m <sup>3</sup> /h (As of 5:00, May 8)	Injecting fresh water via the Fire Extinguish Line. Flow rate of injected water: 9.0m <sup>3</sup> /h (As of 5:00, May 8)	#2 (Out of monitoring scope as all fuels discharged from the core.)	#2 (Water injection is unnecessary as cooling function of the reactor cores are in normal operation.)	
Reactor water level	Fuel range A : -1,650mm Fuel range B : -1,700mm (As of 5:00, May 8)	Fuel range A : -1,500mm Fuel range B : -2,100mm (As of 5:00, May 8)	Fuel range A:-2,100mm Fuel range B:-2,150mm (As of 5:00, May 8)		Shutdown range measurement 1,807mm (As of 6:00, May 8)	Shutdown range measurement 2,246mm (As of 6:00, May 8)
Reactor pressure	0.460MPa g(A) 1.290MPa g(B) #3 (As of 5:00, May 8)	-0.020MPa g (A) #3 -0.018MPa g (D) #3 (As of 5:00, May 8)	-0.085MPa g (A) #3 -0.089MPa g (C) #3 (As of 5:00, May 8)		0.003MPa g (As of 6:00, May 8)	0.016MPa g (As of 6:00, May 8)
Reactor water temperature	(Collection Impossible due to low system flow rate)				42.5°C (As of 6:00, May 8)	47.9°C (As of 6:00, May 8)
Temperature related to Reactor Pressure Vessel (RPV)	Feedwater nozzle temperature: 119.8°C #3 Temperature at the bottom head of RPV: 96.9°C (As of 5:00, May 8)	Feedwater nozzle temperature: 115.6°C Temperature at the bottom head of RPV: #1 (As of 5:00, May 8)	Feedwater nozzle temperature: 202.1°C #3 Temperature at the bottom head of RPV: 151.9°C (As of 5:00, May 8)		#2 (Monitoring water temperature in the reactor.)	
D/W*1 Pressure, S/C*2 Pressure	D/W: 0.120MPa abs S/C: 0.110MPa abs (As of 5:00, May 8)	D/W: 0.060MPa abs S/C: #1 (As of 5:00, May 8)	D/W: 0.1020MPa abs S/C: 0.1832MPa abs (As of 5:00, May 8)		#2 (Out of monitoring scope as cooling function of the reactor is maintained.)	
D/W*1 atmosphere temperature	RPV bellows seal: 97.0°C Return line to HVH*6: 91.0°C (As of 5:00, May 8)	RPV bellows seal: #1 Return line to HVH*6: 111°C (As of 5:00, May 8)	RPV bellows seal: 208.6°C #3 Return line to HVH*6: 157.6°C (As of 5:00, May 8)			
CAMS*3 radiation monitors	D/W (A) #1 (B) #1 S/C (A) 1.12×10 <sup>0</sup> Sv/h #3 (B) 1.14×10 <sup>0</sup> Sv/h #3 (As of 5:00, May 8)	D/W (A) 2.01×10 <sup>1</sup> Sv/h (B) 2.27×10 <sup>1</sup> Sv/h S/C (A) 3.86×10 <sup>-1</sup> Sv/h #3 (B) 1.48×10 <sup>2</sup> Sv/h #3 (As of 5:00, May 8)	D/W (A) 1.22×10 <sup>1</sup> Sv/h (B) 9.22×10 <sup>0</sup> Sv/h S/C (A) 4.81×10 <sup>-1</sup> Sv/h #3 (B) 4.48×10 <sup>-1</sup> Sv/h #3 (As of 5:00, May 8)			
S/C temperature	A: 51.4°C B: 51.3°C (As of 5:00, May 8)	A: 66.8°C B: 67.0°C (As of 5:00, May 8)	A: 40.0°C B: 40.0°C (As of 5:00, May 8)			
D/W*1 design operating pressure	0.384MPa g(0.485MPa abs)	0.384MPa g(0.485MPa abs)	0.384MPa g(0.485MPa abs)		-	-
D/W*1 maximum operating pressure	0.427MPa g(0.528MPa abs)	0.427MPa g(0.528MPa abs)	0.427MPa g(0.528MPa abs)	-	-	

Spent Fuel Pool temperature	#1	61°C ( As of 5:00, May 8 )	#1	#1	40.1°C (As of 6:00, May 8)	30.0°C (As of 6:00, May 8 )
FPC skimmer level	1,600mm ( As of 5:00, May 8 )	4,800mm ( As of 5:00, May 8 )	#1	6,600mm (As of 5:00, May 8 )	#2	
Power supply	Receiving external power supply (P/C*4 2C)		Receiving external power supply (P/ C*4 4D)		Receiving external power supply	
Other information				Common pool: 25 °C (As of 8:00, May 7 )	Unit5: SHC*5 mode (From 20:26, May 7)	Unit6: Supplemental Fuel Pool Cooling mode (From 18:04, May 7)

Pressure conversion    Gauge pressure (MPa g) = Absolute pressure (MPa abs) – Atmospheric pressure (Normal atmospheric pressure 0.1013MPa)  
 Absolute pressure (MPa abs) = Gauge pressure (MPa g) + Atmospheric pressure (Normal atmospheric pressure 0.1013MPa)

- \*1 D/W     : Dry Well
- \*2 S/C     : Suppression Chamber
- \*3 CAMS    : Containment Atmospheric Monitoring System
- \*4 P/C     : Power Center
- \*5 SHC     : Shutdown Cooling
- \*6 HVH     : Heating and Ventilating Handling Unit

- #1         : Measuring instrument malfunction
- #2         : Out of covering range for data collection
- #3         : Under monitoring of the change of the situation

[Note]

There is a possibility that some instruments may not indicate correct values as they have been exposed to the conditions beyond the usual atmospheric ones due to the earthquake and the developments of the event. Taking into account the uncertainty of those instruments, the plants' conditions are judged in an integrated manner paying attention to the trends of the change, using the information obtained through multiple instruments.

Extract

May 8, 2011

Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 129th Release)

(As of 12:00 May 8, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa NPS, Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai Dai-ni NPS, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows.

### 1. Nuclear Power Stations (NPSs)

#### ● Fukushima Dai-ichi NPS

- The transfer of the accumulated water (accumulated water with high-level radioactivity) from the trench of the turbine building of Unit 2 to the Radioactive Waste Treatment Facilities was temporarily suspended due to the construction of the pipes (the Reactor Feedwater System Piping) used for water injection into the reactor of Unit 3. (09:22 May 7) The transfer was resumed. (16:02 May 7)
- About 120t of fresh water was sprayed over the Spent Fuel Pool of Unit 4 using a Concrete Pump Truck (62m class). (From 14:05 till 17:30 May 7)
- The accumulated water (about 200m<sup>3</sup>) in the basement of the turbine building of Unit 6 was transferred to the temporary tank. (From 10:00 till 15:00 May 7)
- Full-scale implementation of spraying an anti-scattering agent in order to prevent the spread of radioactive materials was carried out by workers in an area of about 5,150m<sup>2</sup> on the west-side of the shallow draft quay, around the Radioactive Waste Treatment Facilities, and on the sports ground. (From 10:30 till 14:00 May 7)
- Removal of rubble (an amount equivalent to 8 containers) using remote-controlled heavy machinery was carried out. (From 09:00 till 16:00 May 7)

For more information: NISA English Home Page  
<http://www.nisa.meti.go.jp/english/index.html>

Extract

May 9, 2011

Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 130th Release)

(As of 08:00 May 9, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa NPS, Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai Dai-ni NPS, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows.

### 1. Nuclear Power Stations (NPSs)

#### ● Fukushima Dai-ichi NPS

- In order to improve the working environment of the reactor building of Unit 1, the work to install the ambient air filtration system commenced. (May 2) All (6) units of the ambient air filtration system were operational. (From 16:36 May 5 till 20:02 May 8)
- The duct penetrating the double-entry doors in the reactor building of Unit 1 was cut and the doors were partially opened. (20:08 May 8)
- The double-entry doors of the reactor building of Unit 1 were opened. (04:17 May 9)
- The positive-pressure housing for Unit 1 was dismantled. (05:10 May 9)
- About 60t of fresh water was injected into the Spent Fuel Pool of Unit 3 via the Fuel Pool Cooling and Clean-up System. (From 12:10 till 14:10 May 8)
- The transfer of the water in the Condenser to the basement of the turbine building was started due to the construction of the pipes (the Reactor Feedwater System Piping) used for water injection into the RPV of Unit 3. (From 16:18 May 8)
- Full-scale implementation of spraying an anti-scattering agent in order to prevent the spread of radioactive materials was carried

out by workers in an area of about 5,100m<sup>2</sup> including the west-side of the shallow draft quay. (From 10:30 till 14:00 May 8)

- Removal of rubble (an amount equivalent to 9 containers) using remote-controlled heavy machinery was carried out. (From 09:00 till 16:00 May 8)

## 2. Actions Taken by NISA

- May 8 – NISA confirmed and evaluated the report from TEPCO regarding the necessity for measures to reduce the concentration of radioactive materials inside the reactor building of Unit 1, Fukushima Dai-ichi NPS, and the effect on reducing the concentration of radioactive materials, as well as the assessment of the impact on the environment, etc., and was advised by the Nuclear Safety Commission (NSC) that NISA's evaluation was sufficient. In addition, NISA received advice from NSC about points to consider in association with the above, such as paying attention to the reduction of exposure of workers, to the impact on the environment, and carrying out environmental monitoring and reporting it to NSC.
- NISA directed TEPCO to do the following:
  - When the reactor building of Unit 1 of Fukushima Dai-ichi NPS is opened after measures to reduce the concentration of radioactive materials are conducted, it shall be done with careful consideration to the impact on the surrounding community, and shall be done after advance reporting to NISA.
  - The opening of the reactor building of Unit 1 shall be done with careful attention to avoid sudden impact on the atmosphere inside the building.
  - Radiation exposure management of workers working inside the reactor building of Unit 1 shall be carried out appropriately.
  - After opening the door of the reactor building of Unit 1, adequate monitoring shall be conducted.

For more information: NISA English Home Page

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<http://www.nisa.meti.go.jp/english/index.html>

## Announcement of the Results of Surveys from the "Emergency Survey on Actual Status of Industries after the Great East Japan Earthquake" and the "Survey of Impact on the Supply Chain"

We carried out the "Emergency Survey of Actual Situations of Industries after the Great East Japan Earthquake" in order to understand the actual status of industries (situation and prospects of restoration of production bases in the earthquake-affected areas, stagnant production under the limited supply of products, components etc. and the impact on consumption of the widespread self-restraint in terms of economic activities and so on) following the Great East Japan Earthquake on March 11.

We also conducted hearings from companies to ascertain the current operational status of major companies in the supply chain and movement of the industries towards recovery and prepared the "The Activities of Japan's Industry to Revive the Supply Chain".

The following is the summary of the results of these surveys.

### 1. Emergency Survey on the Actual Status of Industries after the Great East Japan Earthquake

- o **Survey period:** April 8 to April 15, 2011
- o **Companies subject to the survey:** 80 companies (55 in manufacturing industry and 25 in retailing/service industry)
- o **Survey items**
  - (1) Manufacturing industry
    - Present status and prospects of restoration of production bases in the affected areas
    - Status of understanding the impact on the supply chain
    - Background to the difficulties in procurement of raw materials, components and parts
    - Regarding difficulties to procure from alternative suppliers of raw materials, components and parts
    - The expected timing to settle procurement shortages of raw materials, components and parts
  - (2) Retailing and service industry
    - Business sentiment by industry and business
    - Current situations of self-restraint in economic activities
- o **Results of the survey**
  - (1) Manufacturers
    - (Present status and prospects of restoration of production bases in the affected areas)
      - More than 60% of the production bases in the affected areas have been restored.
      - Less than 30% of the remaining bases are expected to be restored by summer.
    - (Status of understanding the impact on supply chain)
      - More than 60% of the materials industry and 40% of the processing industry are able to gauge the impact within one week.
    - (Background to the difficulties in procurement of raw materials, components and parts)
      - Damage to suppliers: 90% of materials companies and 80% of processing companies
      - Damage to suppliers of suppliers: 90% of the processing companies
      - Impact of rolling blackouts: 50% of the processing companies
    - (Regarding difficulties to procure from alternative suppliers of raw materials, components and parts)



- 80% of the processing industry and more than 60% of the materials industry have secured alternative suppliers.

- On the other hand, 50% of the processing industry and 10% of the materials industry have not secured alternative suppliers of raw materials, components and parts.\*).

\*Specific items: raw materials of cosmetics (whitening ingredients), rubber-related items, semiconductors and electronic components, etc.

(The expected timing to settle procurement shortages of raw materials, components and parts)

- Materials industry: 8% have already procured the raw materials etc. A total of 54% expect to do so by July, and a total of 85% expect to do so by October.

- Processing industry: 6% have already procured the raw materials, etc. A total of 29% expect to do so by July, and total of 71% expect to do so by October.

## (2) Retailing and service industry

(Business sentiment after the earthquake)

- The situation depends on the types of industry and business.

(Companies handling foods, commodities and emergency supplies for disaster have positive results, but other consumption except for the abovementioned have negative results.)

(Major causes of decreases in sales and the number of customers)

- More than 80% replied that the "widespread self-restraint behavior of consumers" is the major cause.

- 70% of the companies have voluntarily suspended holding events.

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## 2. Activities of Japan's Industry to Revive the Supply Chain

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### (1) Outline of the Electronics Industry

Because of the earthquake, raw materials and product parts factories that have suffered damage are being brought back into operation one-by-one. There are no negative influences on the production of electronics, e. g. flat panel TVs, mobile phones, smart phones, and lithium-ion batteries, etc.

### (2) Outline of the Aircraft Industry

Just after the disaster, some factories temporarily decreased or suspended their productive activities. However, they have already resumed their operations and, moreover, expect to achieve overall level operation in May, and full-scale production in June.

### (3) Outline of the Automobile Industry

Just after the disaster, the production of automobiles was reduced or suspended but there has been movement toward resumption of production for several models with companies adjusting their operational procedures.

May 6, 2011

Nuclear and Industrial Safety Agency

Regarding the Confirmed Results for the Implementation of the  
emergency safety measures for other Nuclear Power Stations  
Based on the Accident in Fukushima Dai-ichi Nuclear Power  
Station

In light of the accident in Fukushima Dai-ichi Nuclear Power Station(NPS), Nuclear and Industrial Safety Agency (hereinafter, “NISA”) directed each electricity utility, etc. on March 30, 2011 to take on immediately emergency safety measures to prevent damage to the reactor cores, etc even if all three functions (namely, all AC power supply, seawater cooling function, spent fuel storage pool cooling function) were lost due to a tsunami, and to report promptly the implementation for these measures.

Based on this directive, NISA received reports about the implementation of the emergency safety measures from each electricity utility, etc. and strictly confirmed the deployment of machines and equipment such as power supply vehicles, pump trucks, etc., the maintenance of emergency response manuals, the implementation of emergency response training, and so forth by Nuclear Safety Inspectors conducting on-site inspections, etc.

As a result, NISA judges that the emergency safety measures reported by each electricity utility, etc. are being appropriately implemented.

By nuclear safety inspections, etc., NISA will strictly confirm the implementation of measures against inundation to buildings that each electricity utility will have progressed by the end of May, as well as strictly confirm the implementation of the mid- to long-term measures, including securing back-up equipment such as seawater pumps, etc., building air-cooling type large capacity emergency generators, and protective measures against tsunami.

Furthermore, NISA will request each electricity utility to continuously challenge itself to improve the reliability of the emergency safety measures by continuing to promote the required improvement measures.

Attachment 1: Regarding the Confirmed Results of the Implementation of the emergency safety measures for other Nuclear Power Stations Based on the Accident in Fukushima Dai-ichi NPS

Attachment 2: Inspection Criteria related to Confirming the Implementation of the emergency safety measures

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