

Fukushima Daiichi Nuclear Power Station Plant Parameters

[Note]
Some indicators might not be functioning properly beyond the normal condition for usage affected by the earthquake and subsequent events. We comprehensively evaluate situation in plants using all the available information from indicators and also focusing on trends, taking uncertainty of indicators into consideration.

As of 12:00 on January 3

| Unit | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
|--|---|---|---|---|---|--|
| Status of water injection to the reactor | Fresh water feeding Feed water system 4.8m ³ /h, CS line 1.9m ³ /h (as of 11:00, 1/3) | Fresh water feeding Feed water system 1.9m ³ /h, CS line 7.0m ³ /h (as of 11:00, 1/3) | Fresh water feeding Feed water system 2.9m ³ /h, CS line 6.0m ³ /h (as of 11:00, 1/3) | | ※2 (Heat removal of the reactor is functioning. Water injection is unnecessary) | |
| Water level in the reactor | Fuel range A: Downscale Fuel range B:-1740 mm (as of 11:00, 1/3) ※3 | Fuel range A: Downscale ※3 Fuel range B:-2121 mm ※3 (as of 11:00, 1/3) | Fuel range A:-2129 mm ※3 Fuel range B:-2190 mm ※3 (as of 11:00, 1/3) | | Stoppage range 2042mm (as of 12:00, 1/3) | Stoppage range 2119mm (as of 12:00, 1/3) |
| Pressure in the reactor | System A:-0.004 MPa g System B:-MPa g (as of 11:00, 1/3) | System A:0.004 MPa g System B:-MPa g (as of 11:00, 1/3) | System A:Downscale (A)※3 System B:Downscale (C)※3 (as of 11:00, 1/3) | | 0.010 MPa g (as of 12:00, 1/3) | 0.016 MPa g (as of 12:00, 1/3) |
| Water temperature of the reactor | (Since there is no water inflow in the system it is impossible to collect the data) | | | | | |
| Temperature around the reactor vessel | Temperature in feed-water nozzle:26.8 °C Temperature at reactor vessel bottom:27.4 °C (as of 11:00, 1/3) | Temperature in feed-water nozzle:53.3 °C Temperature at reactor vessel bottom:55.1 °C (as of 11:00, 1/3) | Temperature in feed-water nozzle:47.8 °C Temperature at reactor vessel bottom:55.3 °C (as of 11:00, 1/3) | | ※2 (monitoring through water temperature of the reactor) | |
| Pressure in D/W · S/C | D/W:0.1057 MPa abs S/C:0.131 MPa abs (as of 11:00, 1/3) ※3 | D/W:0.109 MPa abs S/C: Downscale ※1 (as of 11:00, 1/3) | D/W:0.1016 MPa abs S/C:0.1861 MPa abs (as of 11:00, 1/3) | | ※2 (Monitoring is unnecessary since all fuel are takeoff) | |
| D/W Atmosphere temperature | RPV bellow seal:28.8 °C HVH return:29.6 °C (as of 11:00, 1/3) | RPV bellow seal:63.5 °C ※3 HVH return:55.5 °C ※3 (as of 11:00, 1/3) | RPV bellow seal:70.4 °C ※3 HVH return:47.7 °C (as of 11:00, 1/3) | | ※2 (Monitoring is unnecessary since heat removal of reactor is functioning.) | |
| CAMS radiation monitor | D/W(A):1.00E-02Sv/h (B):6.95E+00Sv/h S/C(A):6.60E-01Sv/h (B):6.80E-01Sv/h (as of 11:00, 1/3) ※1 ※1 | D/W(A):6.83E+00Sv/h (B):2.55E+00Sv/h S/C(A):5.00E-02Sv/h (B):1.65E+00Sv/h (as of 11:00, 1/3) ※1 ※1 | D/W(A):3.05E+00Sv/h (B):2.03E+00Sv/h S/C(A):2.45E-01Sv/h (B):2.33E-01Sv/h (as of 11:00, 1/3) ※3 | | | |
| Temperature in S/C | System A:40.4 °C System B:40.3 °C (as of 11:00, 1/3) | System A:42.0 °C System B:41.8 °C (as of 11:00, 1/3) | System A:33.9 °C System B:33.9 °C (as of 11:00, 1/3) | | | |
| Hydrogen concentration in PCV | 0.08vol% (as of 11:00, 1/3) | 0.44vol% (as of 11:00, 1/3) | — | | | |
| Designed usable D/W pressure | 0.384MPa g (0.485MPa abs) | 0.384MPa g (0.485MPa abs) | 0.384MPa g (0.485MPa abs) | | | |
| Designed usable D/W maximum pressure | 0.427MPa g (0.528MPa abs) | 0.427MPa g (0.528MPa abs) | 0.427MPa g (0.528MPa abs) | | | |
| Temperature in the spent fuel pool | 13.5°C (as of 11:00, 1/3) | 14.1°C (as of 11:00, 1/3) | 24.1°C (as of 10:00, 1/3) | 21°C (as of 11:00, 1/3) | 14.6°C (as of 12:00, 1/3) | 14.5°C (as of 12:00, 1/3) |
| FPC skimmer surge tank level | 3550mm (as of 11:00, 1/3) | 4350mm (as of 11:00, 1/3) | 7350mm (as of 11:00, 1/3) | 3948mm (as of 11:00, 1/3) | ※2 | |
| Power source | Receiving offsite power (P/C2C) | | | Receiving offsite power (P/C4D) | | Receiving offsite power |
| Others | <ul style="list-style-type: none"> HVH return temperature of Unit 2 D/W is "under continuous monitoring" as the cause is under investigation after the confirmation of possibility of defect. Alternative cooling equipment of the Fuel Pool of Unit 3 is stopped. Therefore, Temperature in the spent fuel pool of Unit 3 show close data. | | | Temperature in the Common Spent Fuel Storage: 15°C (as of 9:50, 1/3) | 5u : SHC mode (from 12:54, 12/21) | 6u : SHC mode (from 12:01, 12/29) |

Pressure conversion Gauge pressure(MPa g) = Absolute pressure(MPa abs) - atmospheric pressure (normal atmospheric pressure0.1013 MPa)
Absolute pressure(MPa abs) = Gauge pressure(MPa g) + atmospheric pressure (normal atmospheric pressure0.1013 MPa)

※1 : Instrument failure
※2 : Not covered for collecting data
※3 : continuously monitoring the status

Fukushima Daiichi Nuclear Power Station Supplemental explanation for the plant parameters

■Supplemental explanation for each parameter

| Item | Recording manner | Measurement manner | Ch number or number of systems |
|--|--|--------------------|---|
| Status of water injection to the reactor | Water inflow (CS line : Core Spray system) | Temporary | System 1 / 1 |
| Water level in the reactors | Data measured by the water gauge, which monitor the fuel range | Temporary | System A 1 / 1 Ch System B 1 / 1 Ch |
| Pressure in the reactor | One representing value is noted among multiple data on each System A, B. Readings of temporary instruments are represented in A system for Unit 1 and 2. | Temporary | 1 / 1 system (Unit 1/2) System A 1 / 2Ch, System B 1 / 2Ch (Unit 3) |
| Temperature in the reactor | Since there is no water inflow at the points, where thermometers are set, no data is collected. | — | — |
| Temperature around the reactor vessel | Data measured at feed-water nozzle and at reactor vessel bottom (1U, 3U : RPV Bottom Head, 2U : RPV Wall Above Bottom Head) are noted among multiple data to view the whole picture. | Temporary | Point of Feed-water nozzle 1 / 4Ch reactor vessel bottom 1 / 2Ch (Unit 1) 1 / 1Ch (Unit 2/3) |
| Pressure in D/W · S/C | Data from temporary instrument. (D/W : Dry Well, S/C : Suppression Chamber) | Temporary | (D/W) wide range 1 / 1Ch (Unit 1) 1 / 4Ch (Unit 2/3) (S/C) 1 / 1system (Unit 1/2) 1 / 2Ch (Unit 3) |
| D/W Atmosphere temperature | Data at upper point (RPV Bellows Air) and middle point (HVH return) are noted among multiple data to view the whole picture. (RPV : Reactor Pressure Vessel, HVH : Heating Ventilating Handling Unit) | Temporary | RPV Bellows Air 1 / 5Ch D/W HVH return 1 / 5Ch |
| CAMS radiation monitor | Data from temporary instrument. (CAMS : Containment Atmospheric Monitoring System) | Temporary | D/W System A 1 / 1Ch System B 1 / 1Ch S/C System A 1 / 1Ch System B 1 / 1Ch |
| Temperature in S/C | Data from temporary instrument. One representing value is noted among multiple data on each System A, B. | Temporary | System A 1 / 4Ch (Unit 1) 、 8Ch (Unit 2/3) System B 1 / 4Ch (Unit 1) 、 8Ch (Unit 2/3) |
| Hydrogen concentration in PCV | Data measured by the PCV gas management system. (PCV : Primary Containment Vessel) | Temporary | System 1 / 1 |
| Temperature in the spent fuel pool | Data from temporary instrument. (Non-thermal mode : Urgent Heat load Mode, SHC mode : Shut down Cooling Mode) | Temporary | 1 / 1 Ch (Unit 2) 1 / 1 system (Unit 1/3/4) |
| FPC skimmer surge tank level | • Unit2, 4 are the FPC skimmer surge tank level measured temporary instrument. • Unit1, 3 are the FPC skimmer surge tank level estimated from temporary pressure gages.(reference value) (FPC : Fuel Pool Cooling system) | Temporary | 1 / 1system |

■Supplemental explanation for notes

| Item | Contents | Status As of 12:00 on January 3 |
|------------------------------------|---|---|
| Instrument failure | Instrument failure : down of instrument reading (over) scale/failure of instrument | Unit 1 CAMS D/W radiation monitor Unit 2 Pressure in S/C, CAMS D/W(B) radiation monitor, CAMS S/C(B) radiation monitor Unit 3 — |
| Not covered for collecting data | Unit4: Monitoring is not implemented since all fuel are takeoff. Unit5/6: Monitoring is not implemented since heat removal of reactor is functioning | — |
| Continuously monitoring the status | Inaccurate Data defined from relation with other Parameters such as negative figure. | Unit 1 Reactor water level(B), Pressure in S/C Unit 2 Reactor water level, RPV bellow air temperature,HVH return temperature Unit 3 Reactor water level, reactor pressure, RPV bellow air temperature, CAMS D/W(A) radiation monitor |