

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 February 20

| 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 4.6m ³ /h, CS line 1.8m ³ /h (as of 11:00, 2/20) | Fresh water feeding Feed water system 7.7m ³ /h, CS line 6.0m ³ /h (as of 11:00, 2/20) | Fresh water feeding Feed water system 1.9m ³ /h, CS line 5.0m ³ /h (as of 11:00, 2/20) | ※2 (Monitoring is unnecessary since all fuel are takeoff) | ※2 (Heat removal of the reactor is functioning. Water injection is unnecessary) | | | |
| Water level in the reactor | Fuel range A: Downscale Fuel range B:-1860 mm (as of 11:00, 2/20) ※3 | Fuel range A: Downscale ※3 Fuel range B:-2116 mm (as of 11:00, 2/20) ※3 | Fuel range A:-1812 mm ※3 Fuel range B:-2195 mm (as of 11:00, 2/20) ※3 | | Stoppage range 2510mm (as of 12:00, 2/20) | Stoppage range 2100mm (as of 12:00, 2/20) | | |
| Pressure in the reactor | System A:-0.005 MPa g System B:-MPa g (as of 11:00, 2/20) | System A:0.008 MPa g System B:-MPa g (as of 11:00, 2/20) | System A:Downscale (A)※3 System B:Downscale (C)※3 (as of 11:00, 2/20) | | 0.012 MPa g (as of 12:00, 2/20) | 0.020 MPa g (as of 12:00, 2/20) | | |
| 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:23.8 °C Temperature at reactor vessel bottom:24.0 °C (as of 11:00, 2/20) | Temperature in feed-water nozzle:31.6 °C Temperature at reactor vessel bottom:29.9 °C (as of 11:00, 2/20) | Temperature in feed-water nozzle:40.3 °C Temperature at reactor vessel bottom:49.5 °C (as of 11:00, 2/20) | | ※2 (Monitoring is unnecessary since all fuel are takeoff) | ※2 (monitoring through water temperature of the reactor) | | |
| Pressure in D/W · S/C | D/W:0.1075 MPa abs S/C:0.118 MPa abs (as of 11:00, 2/20) ※3 | D/W:0.113 MPa abs S/C: Downscale (as of 11:00, 2/20) ※1 | D/W:0.1016 MPa abs S/C:0.1885 MPa abs (as of 11:00, 2/20) | | | ※2 (Monitoring is unnecessary since heat removal of reactor is functioning.) | | |
| D/W Atmosphere temperature | RPV bellow seal:25.0 °C HVH return:25.1 °C (as of 11:00, 2/20) | RPV bellow seal:36.1 °C ※3 HVH return:36.4 °C ※3 (as of 11:00, 2/20) | RPV bellow seal:51.9 °C ※3 HVH return:41.5 °C (as of 11:00, 2/20) | | | | | |
| CAMS radiation monitor | D/W(A):1.00E-02Sv/h ※1 (B):8.94E+00Sv/h ※1 S/C(A):6.40E-01Sv/h (B):6.70E-01Sv/h (as of 11:00, 2/20) | D/W(A):6.41E+00Sv/h ※1 (B):2.47E+00Sv/h ※1 S/C(A):5.00E-02Sv/h ※1 (B):5.20E+00Sv/h ※1 (as of 11:00, 2/20) | D/W(A):2.91E+00Sv/h ※3 (B):1.85E+00Sv/h ※3 S/C(A):2.30E-01Sv/h ※3 (B):2.20E-01Sv/h ※3 (as of 11:00, 2/20) | | | | | |
| Temperature in S/C | System A:33.7 °C System B:33.6 °C (as of 11:00, 2/20) | System A:33.7 °C System B:33.5 °C (as of 11:00, 2/20) | System A:29.1 °C System B:29.0 °C (as of 11:00, 2/20) | | | | | |
| Hydrogen concentration in PCV | 0.01vol% (as of 11:00, 2/20) ※3 | 0.08vol% (as of 11:00, 2/20) ※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 | 25.0°C (as of 11:00, 2/20) | 12.5°C (as of 11:00, 2/20) | 13.1°C (as of 11:00, 2/20) | 22°C (as of 11:00, 2/20) | | | 17.4 °C (as of 12:00, 2/20) | 22.0 °C (as of 12:00, 2/20) |
| FPC skimmer surge tank level | 3650mm (as of 11:00, 2/20) | 4170mm (as of 11:00, 2/20) | 3960mm (as of 11:00, 2/20) | 3632mm (as of 11:00, 2/20) | | | ※2 | |
| Power source | Receiving offsite power (P/C2C) | | | Receiving offsite power (P/C4D) | | | Receiving offsite power | |
| Others | | | | Temperature in the Common Spent Fuel Storage: 16°C (as of 10:10, 2/20) | 5u : SHC mode (from 14:28, 2/15) | 6u : SHC mode (from 17:52, 2/16) | | |

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 February 20 |
|------------------------------------|---|--|
| 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 Unit1-2 Hydrogen Density of PCV : In case that the instrument indicates minus hydrogen density, "0%" is recorded. (Because there's the possibility of minus indication due to the instrumental precision when hydrogen density is very low.) |